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ABSTRACT

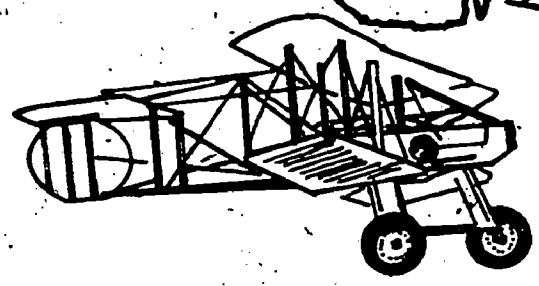
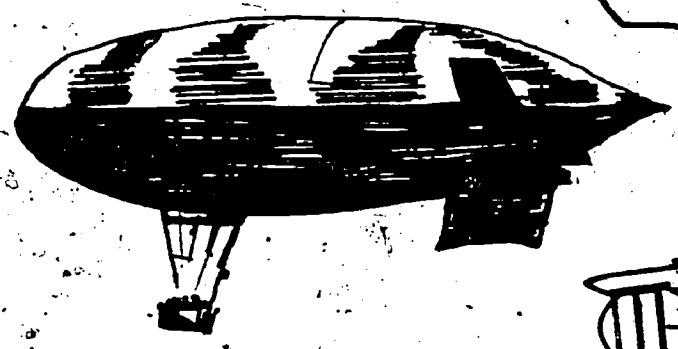
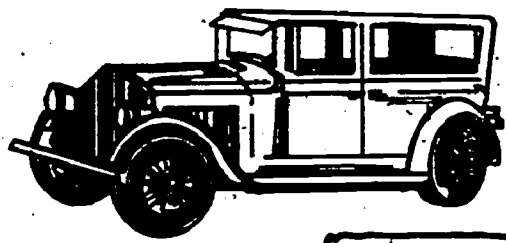
These worksheets relate to the 1973-74 official North Carolina Department of Transportation Highway Map. Topics covered include: map reading, fractions, percentage, estimating, charts, and rounding. An answer key is included. (MP)

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# Roadmapping through the Land of Mathematics

ED 164 316



U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
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## TO THE TEACHER

These materials relate to the 1973-74 official North Carolina Department of Transportation Highway Map. They were written for use in eighth and ninth grades. Classroom sets of these North Carolina maps are available from the Public Information Officer, State Highway Commission, Highway Building, Raleigh, North Carolina 27611. It is hoped that these "real life" problems will be of interest to your students.

We suggest that the materials be distributed to the students one sheet at a time and that they be directed to make a booklet of the completed sheets.

Since the history of North Carolina is included in the eighth and ninth grade social studies program, this unit could be expanded to integrate mathematics and social studies with relatively little difficulty. The final two pages describing a trip could be increased to include points of historical, scenic and economic importance within the "trip".

The answers to the questions in this unit are given at the end.

You might want to consider weaving topics from this unit into your existing curriculum when they are appropriate, instead of using the entire unit on consecutive days.

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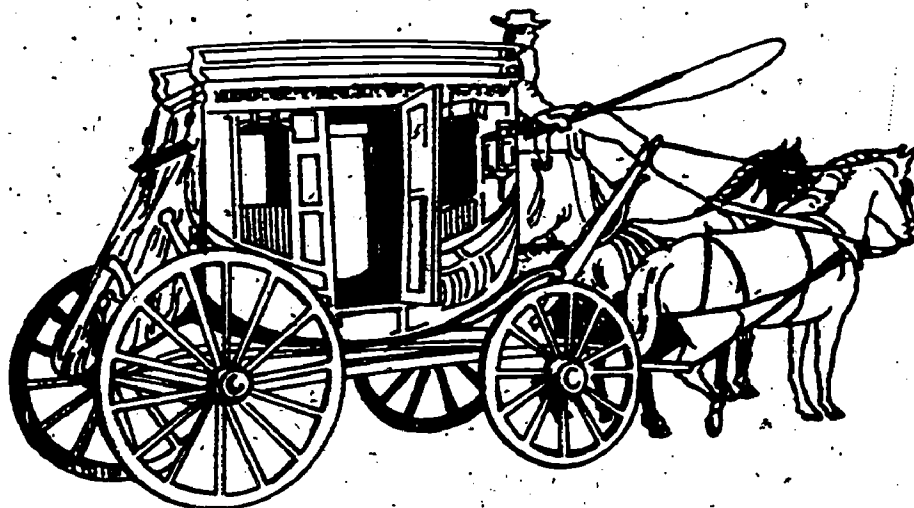
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## USING THE LEGEND OF A MAP

**DIRECTIONS:** Use the legend to help you answer these questions.

1. One inch on the map equals approximately \_\_\_\_\_ miles.
2. Six and one-half inches on the map equals approximately \_\_\_\_\_ miles.
3. What highway passes nearest to the Joyce Kilmer Memorial Forest? \_\_\_\_\_
4. How many full traffic interchanges are there on Interstate 40 between Interstate 77 on the west and Interstate 85 on the east? \_\_\_\_\_
5. Fifty-two miles is represented by \_\_\_\_\_ inches on the map.
6. Use the legend to show you how to identify county seats, then find and identify the county seats of the counties which adjoin your county.
  - a. \_\_\_\_\_ b. \_\_\_\_\_ c. \_\_\_\_\_ d. \_\_\_\_\_ e. \_\_\_\_\_
7. On the road map, it is about  $1 \frac{3}{8}$ " between Clinton and Newton Grove; how many miles would this distance represent? \_\_\_\_\_
8. It is about 142 miles between Greenville and Burlington. How many inches would it take to represent this distance on the road map? \_\_\_\_\_ (Round answer to the nearest whole inch.)
9. A \_\_\_\_\_ is the symbol which is used in the legend to locate cities and towns under 2000 population.



## USING CITY MAP INSERTS

**DIRECTIONS:** *Find the city map inserts on your map to help you answer these questions.*

### GREENSBORO

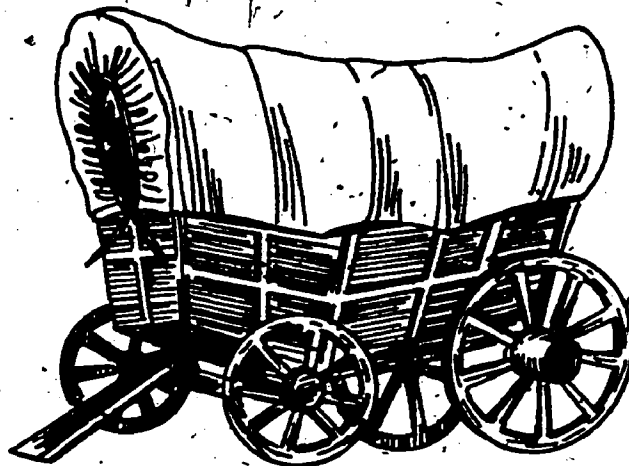
1. Which highway passes nearest to War Memorial Stadium?
2. Which route would you follow to Bennet College if you were entering Greensboro on Interstate 40 from Winston-Salem?
3. Name four lakes that are listed on the Greensboro map.

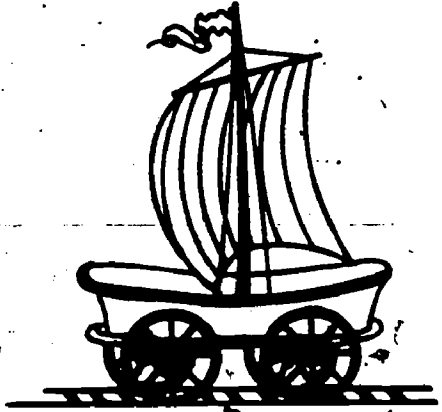
### WILMINGTON

4. Give the route you would follow to UNC-Wilmington if you were entering the city on U.S. 17 from Myrtle Beach, South Carolina.
5. Give the route you would take to the USS North Carolina Battleship Memorial if you were entering the city on U.S. 17 from Jacksonville?

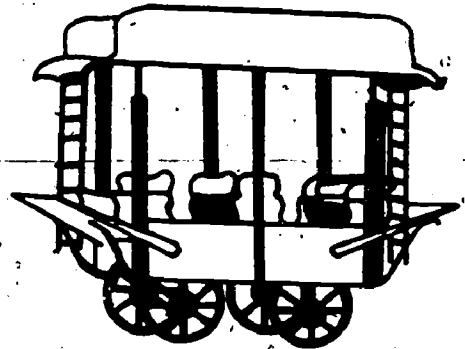
### CHARLOTTE

6. What route would you follow to the Mint Museum of Art if you were entering Charlotte from Statesville on U.S. 21?





FACTS  
TO  
KNOW ....



1. What are the two longest interstate highways in North Carolina?

\_\_\_\_\_

2. What are the two shortest interstate highways in North Carolina?

\_\_\_\_\_

3. Locate four lighthouses off the coast of North Carolina; identify them and tell which town is closest to each of these lighthouses.

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

4. The largest lake with boundaries exclusively in North Carolina is

\_\_\_\_\_

5. What is the westernmost town in North Carolina? \_\_\_\_\_

What is the southernmost town in North Carolina? \_\_\_\_\_

What is the easternmost town in North Carolina? \_\_\_\_\_

6. What is the area (in square miles) of North Carolina? \_\_\_\_\_

7. What was the population of North Carolina in 1970? \_\_\_\_\_

8. Kill Devil Hills is at \_\_\_\_\_ north latitude.

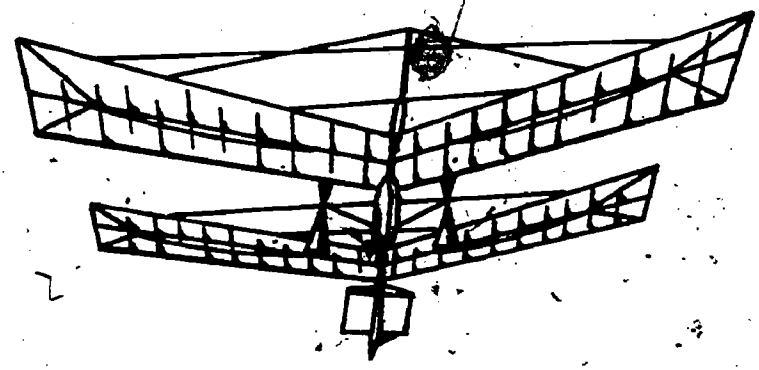
9. Nashville, N. C. is at \_\_\_\_\_ west longitude.



MAKING LOCATIONS GRAPHICALLY CLEAR  
OR  
USING MAP COORDINATES TO LOCATE PLACES

A. Name the largest city or town nearest to these map coordinates.

- |              |               |
|--------------|---------------|
| 1. J-3 _____ | 6. E-2 _____  |
| 2. H-2 _____ | 7. F-3 _____  |
| 3. E-3 _____ | 8. E-4 _____  |
| 4. G-2 _____ | 9. J-4 _____  |
| 5. H-3 _____ | 10. C-2 _____ |



B. What place of interest, park, forest or body of water is located nearest to these map coordinates?

- |              |               |
|--------------|---------------|
| 1. J-3 _____ | 6. F-3 _____  |
| 2. D-2 _____ | 7. F-1 _____  |
| 3. B-2 _____ | 8. G-2 _____  |
| 4. J-1 _____ | 9. L-1 _____  |
| 5. H-4 _____ | 10. M-2 _____ |

QUO VADIS

OR

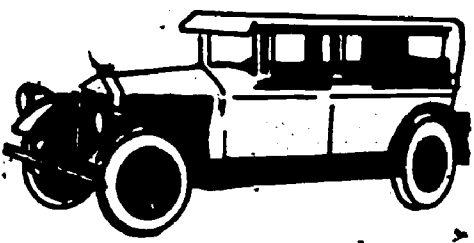
JUST WHERE DO YOU THINK YOU'RE GOING?

Eden	Albemarle	Burlington
Durham	Edenton	Winston-Salem
Wilmington	Shelby	Greensboro

Which of the cities listed above is.....

1. Due north of Greensboro? \_\_\_\_\_
2. Northwest of Raleigh? \_\_\_\_\_
3. Due south of Goldsboro? \_\_\_\_\_
4. Southeast of Salisbury? \_\_\_\_\_
5. Southwest of Elizabeth City? \_\_\_\_\_
6. Due west of Gastonia? \_\_\_\_\_
7. Northwest of Reidsville? \_\_\_\_\_
8. Due west of Rocky Mount? \_\_\_\_\_
9. Due west of Greensboro? \_\_\_\_\_

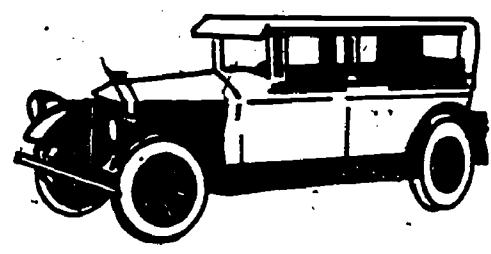
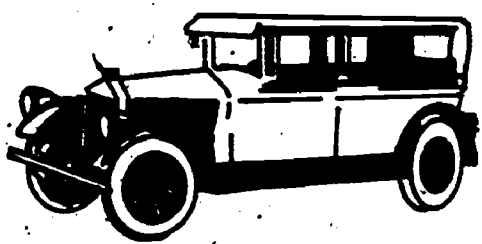




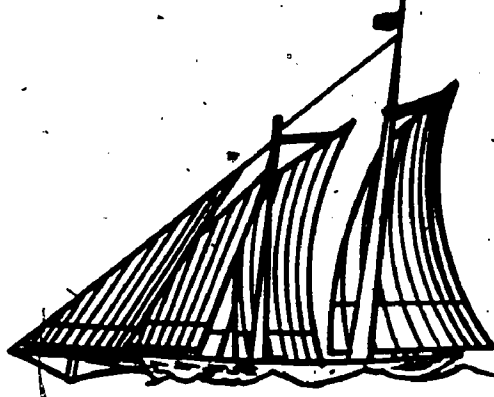
FOLLOWING THY NOSE

Name The Largest Town.....

- 1. Between Winston-Salem and Burlington \_\_\_\_\_
- 2. Between Winston-Salem and Hickory \_\_\_\_\_
- 3. Between Rocky Mount and Goldsboro \_\_\_\_\_
- 4. East of Salisbury and South of Greensboro \_\_\_\_\_
- 5. South of Hickory and West of Charlotte \_\_\_\_\_
- 6. Northeast of Fayetteville and South of Wilson \_\_\_\_\_
- 7. South of Chapel Hill and Southwest of Raleigh \_\_\_\_\_
- 8. Northwest of Monroe and South of Statesville \_\_\_\_\_
- 9. Northeast of Goldsboro and West of Washington \_\_\_\_\_
- 10. South of Mars Hill and Northwest of Bat Cave \_\_\_\_\_



STATE PARKS AND  
RECREATION AREAS



DIRECTIONS: *What state parks are located near the following towns?*

1. West Jefferson
2. Roaring Gap
3. Ararat
4. Danbury
5. Churchland
6. Albemarle
7. Marners
8. White Lake
9. Seven Springs
10. Carolina Beach
11. Oswalt

DIRECTIONS: *What national parks or attractions are located near the following towns?*

1. Kill Devil Hills
2. Blowing Rock
3. Barnardsville
4. Brevard
5. New Bern
6. Morehead City
7. Kure Beach

## USING THE DISTANCE TABLE

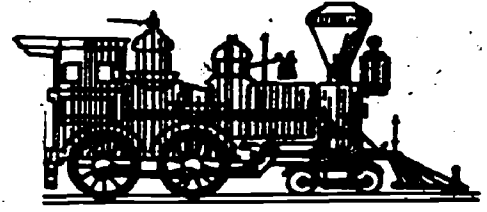
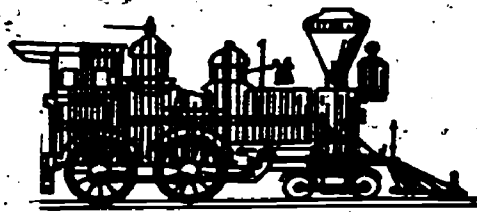
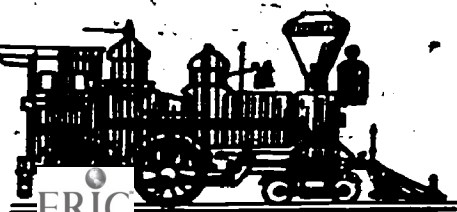
**DIRECTIONS:** *Use the Distance Table on the map to find the distance between these cities.*

CITIES	DISTANCE	CITIES	DISTANCE
1. Cape Hatteras and Murphy	_____	9. Hickory and Asheville	_____
2. Cherokee and Albemarle	_____	10. Laurinburg and Lenoir	_____
3. Kannapolis and Durham	_____	11. Southport and Cherokee	_____
4. Asheville and N. Wilkesboro	_____	12. Hendersonville and Henderson	_____
5. Roanoke Rapids and Mount Mitchell	_____	13. Lexington and Wilson	_____
6. Southern Pines and Winston-Salem	_____	14. Waynesville and Elizabeth City	_____
7. Fontana and Jacksonville	_____	15. Boone and Sanford	_____
8. Fayetteville and Kitty Hawk	_____	16. Reidsville and Blowing Rock	_____

## COMPUTING MILEAGE

**DIRECTIONS:** Listed in each item below are the names of two towns followed by the highway routes we are to use in getting from the first town to the other. Use this information to determine the approximate mileage between the towns..

<u>TOWNS</u>	<u>HIGHWAYS</u>	<u>APPROXIMATE MILEAGE</u>
1. Ranger to Brevard	US 19 and US 64	_____
2. Waynesville to Forest City	US 276 and US 64	_____
3. Shelby to Elkin	NC 18 and NC 268	_____
4. Wadesboro to Johnsonville	NC 109 and NC 24	_____
5. Liberty to Oxford	NC 49 and Interstate 85	_____
6. Fuquay-Varina to Williamston	NC 42 and US 64	_____
7. Wards Corner to Washington	NC 53 and US 17	_____
8. Elizabeth City to Pantego	US 17, NC 45 and NC 99	_____
9. Zebulon to Roxboro	NC 96 and US 158	_____
10. Salisbury to Hamlet	US 52 and US 74	_____
11. Pireway to Wallace	NC 905, US 701 and NC 41	_____
12. Lincolnton to Southern Pines	NC 27, NC 73, NC 24, and NC 22	_____
13. Wilkesboro to Pittsboro	NC 115, Interstate 40 and US 64	_____
14. Boone to Biscoe	US 421, US 601, US 64 and US 220	_____
15. Waxhaw to Burlington	NC 75, US 601 and NC 49	_____



# WE FIND HIGHWAY JUNCTIONS.....

**DIRECTIONS:** Use the Index to Cities and Towns to find the following places on the map; also list the highways which form junctions in or near those towns.

Example: Ramseur

U.S. 64, N.C. 49, and N.C. 22

<u>TOWN</u>	<u>JUNCTIONS</u>
1. Warsaw	_____
2. Lexington	_____
3. Brooks Cross Roads	_____
4. Mount Gilead	_____
5. Newton Grove	_____
6. Fireway	_____
7. Beulaville	_____
8. Morganton	_____
9. Troy	_____
10. Franklin	_____
11. Saratoga	_____
12. Burlington	_____
13. Rich Square	_____
14. Rockingham	_____

## WHERE OH WHERE WILL WE BE?

**DIRECTIONS:** Trace the indicated route and tell where your travel ends and how far you will have traveled.

**Example:** Start at Rolesville, drive 42 miles north on U.S. 401, travel east on U.S. 158 for 35 miles and you are in Roanoke Rapids and have traveled 77 miles.

1. Begin at Ridgecrest, drive 17 miles east on Interstate 40, travel south 38 miles on U.S. 221 and you are in \_\_\_\_\_ and have traveled \_\_\_\_\_ miles.
2. Start at Burnsville, drive east for 20 miles on U.S. 19E, drive east on N.C. 194 for 4 miles, travel south on U.S. 221 for 44 miles and you are in \_\_\_\_\_ and have traveled \_\_\_\_\_ miles.
3. Drive west from Mount Pleasant on N.C. 73 for 51 miles, drive north on N.C. 27 for 8 miles, travel west on N.C. 182 for 20 miles and you are in \_\_\_\_\_ and have traveled \_\_\_\_\_ miles.
4. Start at Wingate, drive east on U.S. 74 for about 41 miles, travel north on U.S. 1 for 54 miles, drive west on N.C. 42 for 13 miles and you are in \_\_\_\_\_ and have traveled \_\_\_\_\_ miles.
5. Begin at Jacksonville, drive north on U.S. 17 for 77 miles, northeast on N.C. 171 for 18 miles, drive east on 64 and you are in \_\_\_\_\_ and have traveled \_\_\_\_\_ miles.
6. Start at Chapel Hill and drive north on N. C. 86 for 54 miles, travel west on U.S. 58 for 61 miles and you are in \_\_\_\_\_ and have driven \_\_\_\_\_ miles.
7. Proceed northwest from Spivey's Corner on U.S. 421 for 25 miles, turn north on U.S. 401 for 62 miles, go northeast on N.C. 561 for 30 miles and you are in \_\_\_\_\_ and have driven \_\_\_\_\_ miles.
8. Start at Rocky Mount and drive east on U.S. 64 for 151 miles, then drive south for 62 miles and you are in \_\_\_\_\_ and have driven \_\_\_\_\_ miles.
9. Begin at Boone and travel about 7 miles south on U.S. 321, turn south on the Blue Ridge Parkway until you reach N.C. 128, drive north on N.C. 128 for 6 miles and you are \_\_\_\_\_.
10. Locate N.C. 55 south of Durham and follow it to where it terminates. The name of the city where you find the demise of N.C. 55 is \_\_\_\_\_.



## WHICH ROUTE IS SHORTEST?

For each of the following problems, first put a check by the letter which you think represents the shortest route. Then determine the mileage for EACH route and record it in the appropriate space. Change the location of the check mark if your estimate was incorrect.

**Problem 1:** *If you want to travel from Raleigh to Charlotte, which of the following would be the shortest route?*

- A. Go west on US 70 to Interstate 85, then South on Interstate 85 to Charlotte.
- B. Go south on US 1 to US 64, west on US 64 to NC 49, and then go west on NC 49 to Charlotte.
- C. Go south on US 1 to US 15, west on US 15 to NC 24, and then go west on NC 24 to Charlotte.

**Problem 2:** *If you want to travel from Rockingham to Kinston, which of the following would be the shortest route?*

- A. Go north on US 1 to NC 27, east on NC 27 to NC 50, south on NC 50 to NC 55, and then go east on NC 55 to Kinston.
- B. Go east on US 74 to NC 41, east on NC 41 to NC 11, and then go north on NC 11 to Kinston.
- C. Go east on US 74 to US 401, north on US 401 to US 13, northeast on US 13 to US 70, and then go east on US 70 to Kinston.

**Problem 3:** *If you want to go from Hickory to Brevard, which of the following would be the shortest route?*

- A. Go west on Interstate 40 to NC 9, south on NC 9 to US 64, and then go southwest on US 64 to Brevard.
- B. Go west on Interstate 40 to US 64, then go southwest on US 64 to Brevard.
- C. Go west on Interstate 40 to US 70, west on US 70 to US 25, south on US 25 to NC 280, south on NC 280 to US 64 and then go southwest on US 64 to Brevard.

**Problem 4:** *If you want to travel from Wilmington to Fayetteville*

- A. Take U.S. 74 west to Interstate 95, and take I-95 north to Fayetteville.
- B. Take U.S. 74 west to N.C. 87, and then take N.C. 87 northwest to Fayetteville.
- C. Take U.S. 421 north to N.C. 210, and then take N.C. 210 west to Fayetteville.

**Problem 5:** *Fayetteville to Elizabeth City*

- A. Take I-95 north to U.S. 301, near Kenly, U.S. 301 north to U.S. 64, U.S. 64 east to Bethel, from Bethel take U.S. 64 - 13 east to U.S. 17 and then take U.S. 17 northeast to Elizabeth City.
- B. Go northwest on U.S. 13 to Williamston, U.S. 13-17 to U.S. 17, and then take U.S. 17 northeast to Elizabeth City.
- C. Go east on U.S. 13 to N.C. 55, east on N.C. 55 to N.C. 11, north on N.C. 11 to N.C. 350, northeast on N.C. 350 to U.S. 13, north on U.S. 13 to U.S. 158, and then go east on U.S. 158 to Elizabeth City.

**Problem 6:** *If you want to travel from Sanford to Belhaven,*

- A. Go north on U.S. 1 to Raleigh, east on U.S. 64 to U.S. 264 outside of Zebulon, east on U.S. 264 to N.C. 92, and then east on U.S. 92 to Belhaven.
- B. Go east on U.S. 421 to N.C. 42, east on N.C. 42 to U.S. 264, east on U.S. 264 to N.C. 92, and then go east on N.C. 92 to Belhaven.
- C. Go north on U.S. 1 to Raleigh, east on U.S. 64 to U.S. 17, south on U.S. 17 to U.S. 264, east on U.S. 264 to N.C. 92, and then go east on N.C. 92 to Belhaven.

### MAKING A BEELINE AS THE CROW FLIES

A. Name the largest city within a 30-mile radius of

- 1. Delco \_\_\_\_\_
- 2. Lenoir \_\_\_\_\_
- 3. Albemarle \_\_\_\_\_
- 4. Kinston \_\_\_\_\_
- 5. Burlington \_\_\_\_\_

B. Determine the approximate airline distance between the following pairs of towns, and compare this with the mileage listed in the distance chart.

	Distance Chart	Airline Distance	Difference
1. Albemarle and Southern Pines	_____	_____	_____
2. Winston-Salem and Durham	_____	_____	_____
3. Chapel Hill and Asheboro	_____	_____	_____
4. Hickory and Asheville	_____	_____	_____
5. Morehead City & Cape Hatteras	_____	_____	_____

C. What is the approximate flying time (in hours and minutes) of an airplane traveling at 360 miles per hour from

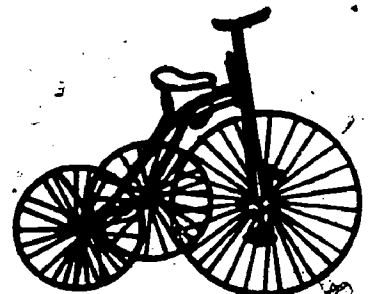
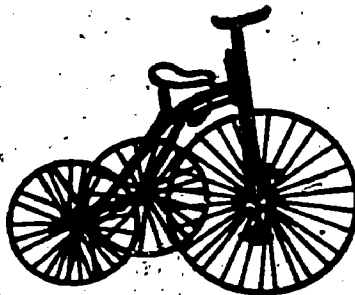
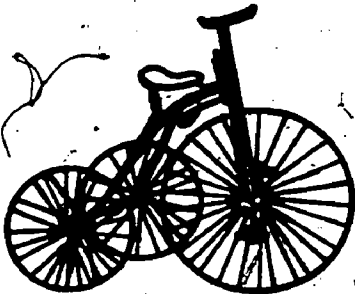
- 1. Greensboro to Wilmington? \_\_\_\_\_
- 2. Asheville to Raleigh? \_\_\_\_\_
- 3. Charlotte to Winston-Salem? \_\_\_\_\_

# USING THE POPULATION CHART

**DIRECTIONS:** Look up the population of the following places and write the population first in numerals and then in words.

Example: Bath 231, two hundred thirty-one

1. Valdese
2. Drexel
3. Durham
4. Wingate
5. St. Pauls
6. Greensboro
7. New Bern
8. Lumberton
9. Raleigh
10. Hickory
11. Charlotte
12. Reidsville
13. Archdale
14. Burlington
15. Winston-Salem



## HOW MUCH LARGER?

**DIRECTIONS:** Use the Official 1970 Census information included in this unit to determine how much larger the population of the first town is than the second.

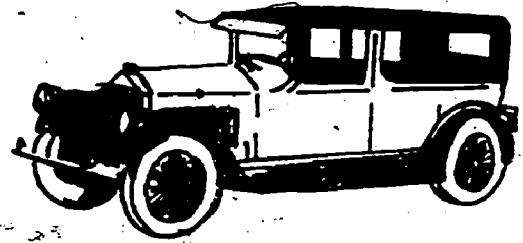
Example: Winston-Salem than Troy 130,484

1. Ahoskie than Louisburg \_\_\_\_\_
2. Old Fort than Ruth \_\_\_\_\_
3. Salisbury than Newton \_\_\_\_\_
4. Reidsville than Mount Gilead \_\_\_\_\_
5. Greensboro than Raleigh \_\_\_\_\_
6. Charlotte than Asheville \_\_\_\_\_
7. Morehead City than Oriental \_\_\_\_\_
8. Graham than Chocowinity \_\_\_\_\_
9. Hope Mills than Dundarrach \_\_\_\_\_
10. Cary than Seaboard \_\_\_\_\_
11. Mocksville than Milwaukee \_\_\_\_\_
12. Washington than Yadkinville \_\_\_\_\_
13. Greenville than Bethel \_\_\_\_\_
14. Southern Pines than Spruce Pine \_\_\_\_\_
15. Spindale than Wilson Mills \_\_\_\_\_
16. Lenoir than Saluda \_\_\_\_\_
17. Shelby than Kenly \_\_\_\_\_
18. Chapel Hill than Rose Hill \_\_\_\_\_
19. Mars Hill than Pink Hill \_\_\_\_\_
20. Charlotte than Burlington \_\_\_\_\_
21. Durham than Shallotte \_\_\_\_\_
22. Rocky Mount than Lasker \_\_\_\_\_
23. Black Mountain than Love Valley \_\_\_\_\_



# HOW MUCH SMALLER IN POPULATION IS . . .

1. Longview than New Bern? \_\_\_\_\_
2. Oriental than Lexington? \_\_\_\_\_
3. Morrisville than Asheville? \_\_\_\_\_
4. Milton than Durham? \_\_\_\_\_
5. Harkers Island than Greensboro?  
\_\_\_\_\_
6. Lillington than Siler City?  
\_\_\_\_\_
7. Mortimer than Shelby? \_\_\_\_\_
8. Sims than Rockwell? \_\_\_\_\_
9. Vandemere than Smithfield? \_\_\_\_\_
10. Vass than Kinston? \_\_\_\_\_



11. Powellsville than Morganton? \_\_\_\_\_
12. Roper than Lumberton? \_\_\_\_\_
13. Acme than Morehead City? \_\_\_\_\_
14. Grifton than Asheville? \_\_\_\_\_
15. Godwin than Sanford? \_\_\_\_\_
16. Littleton than Kannapolis? \_\_\_\_\_
17. Centerville than Davidson? \_\_\_\_\_
18. Garysburg than Oxford? \_\_\_\_\_
19. Falkland than Hickory? \_\_\_\_\_
20. Colerain than Wilmington? \_\_\_\_\_
21. Staley than Wilson? \_\_\_\_\_
22. Todd than Winston-Salem? \_\_\_\_\_
23. Speed than Charlotte? \_\_\_\_\_
24. Snow Hill than Asheboro? \_\_\_\_\_
25. Nags Head than Thomasville? \_\_\_\_\_



**ARRANGING IN ORDER I**

**DIRECTIONS:** *Number the following locations in order from smallest to largest according to their population.*

**Group 1**

Order		Population
___	A. Ahsokie	_____
___	B. Andrews	_____
___	C. Archdale	_____
___	D. Askewville	_____
___	E. Aurora	_____
___	F. Ayden	_____

**Group 2**

Order		Population
___	A. Aberdeen	_____
___	B. Burgaw	_____
___	C. Crossnore	_____
___	D. Dillsboro	_____
___	E. Elon College	_____
___	F. Fairmont	_____
___	G. Grover	_____

**Group 4**

Order		Population
___	A. Murphy	_____
___	B. Andrews	_____
___	C. Laurel Park	_____
___	D. Cherry Point	_____
___	E. Canton	_____
___	F. Lillington	_____
___	G. Boone	_____
___	H. Jefferson	_____
___	I. Mount Airy	_____
___	J. Walkertown	_____
___	K. Ramseur	_____
___	L. Concord	_____

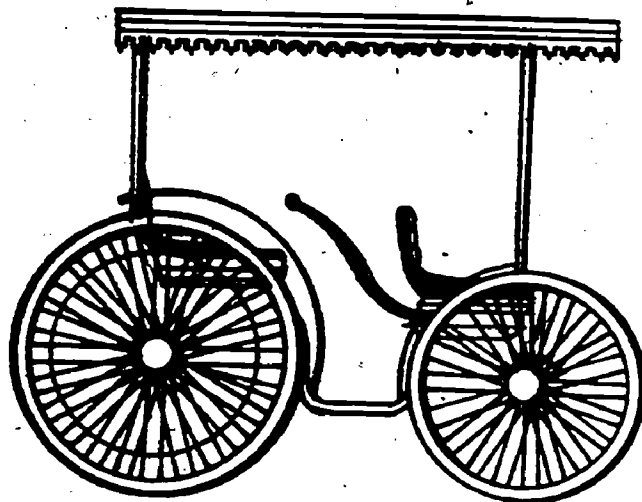
**Group 3**

Order		Population
___	A. Saluda	_____
___	B. Seven Springs	_____
___	C. Roseboro	_____
___	D. Nashville	_____
___	E. Norwood	_____
___	F. North Wilkesboro	_____
___	G. Liberty	_____
___	H. Knightdale	_____
___	I. Garner	_____

DIRECTIONS: *Number the following cities and towns in order from largest to smallest according to their population.*

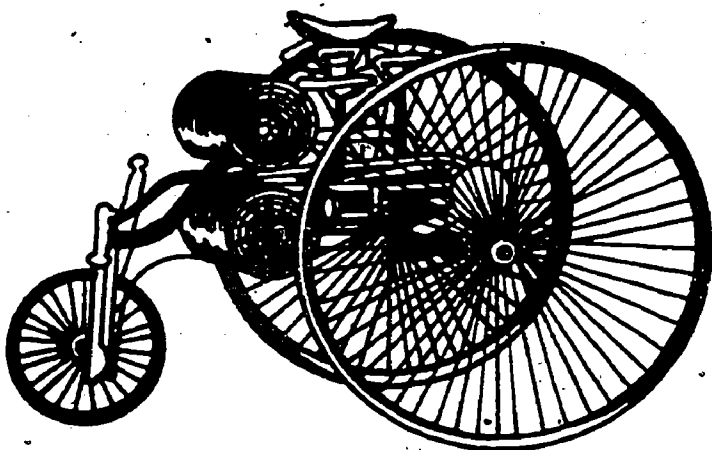
Group 1

Order		Population
_____	A. Youngsville	_____
_____	B. Yanceyville	_____
_____	C. Yadkinville	_____
_____	D. Woodville	_____
_____	E. Winterville	_____
_____	F. Whiteville	_____
_____	G. Weaverville	_____
_____	H. Waynesville	_____
_____	I. Warrensville	_____
_____	J. Taylorsville	_____
_____	K. Stoneville	_____
_____	L. Stanleyville	_____



Group 2

Order		Population
_____	A. Chapel Hill	_____
_____	B. Laurel Hill	_____
_____	C. Mars Hill	_____
_____	D. Pink Hill	_____
_____	E. Rose Hill	_____
_____	F. Snow Hill	_____
_____	G. Bath	_____
_____	H. Benson	_____
_____	I. Biscoe	_____
_____	J. Roper	_____
_____	K. Micro	_____

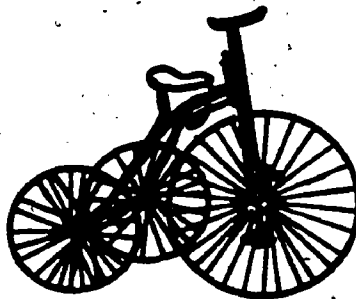
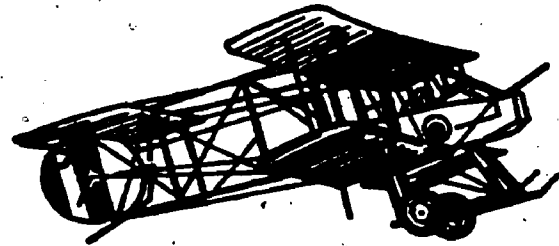




### NORTH CAROLINA'S SMALLEST CITIES

**DIRECTIONS:** List the nineteen smallest cities in order from smallest to largest. (The first one is done for you.)

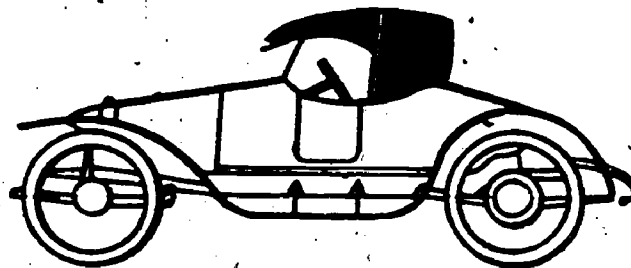
- 1. Dellview
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.
- 15.
- 16.
- 17.
- 18.
- 19.



NORTH CAROLINA'S

LARGEST

CITIES



**DIRECTIONS:** *List the twenty (20) largest cities in North Carolina, in ORDER, according to population. Arrange from largest to smallest.*

1.

2.

4.

3.

5.

6.

7.

8.

9.

10.

17.

11.

18.

12.

19.

13.

20.

14.

15.

16.

**POPULATION AVERAGES**

**DIRECTIONS:** *Determine the average population of each of the following groups of towns and cities. Record each average on the appropriate blank.*

1. Bakersville  
Indian Trail  
Lake Lure  
Stanfield

---

2. Belmont  
Hamlet  
Roxboro

---

3. Mount Airy  
Mount Gilead  
Mount Holly  
Mount Olive  
Mount Pleasant

---

4. Charlotte  
Greensboro  
Winston-Salem  
Raleigh

---

5. Beargrass  
Chadwick Acres  
Council  
Culberson  
Dundarrach  
Guilford College  
Love Valley  
McDonald  
Margaretsville  
Marietta  
Mortimer  
Ocean Isle Beach  
Palmyra  
Parkersburg  
South Creek  
Todd  
Topsail Beach
- 

6. Goldsboro  
Fort Bragg  
Fayetteville  
Greenville  
Bath  
Asheville  
Camp Lejeune
-

....WHERE HAVE ALL THE PEOPLE GONE?

- 1. Open a compass to a "40 mile" radius, place the point on Chocowinity and draw a circle. Name the six largest cities which fall on or closest to this circle and compute their average population.

A.

TOWN	POPULATION
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. Average population: \_\_\_\_\_

- 2. Using the same "40 mile" radius, set the compass point down on Gold Hill and draw another circle. Identify the six largest cities on or very close to this circle. Compute the average population of these towns.

A.

TOWN	POPULATION
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

B. Average population: \_\_\_\_\_



3. Now that we have moved westward from the Coastal Plains in problem #2, let's continue the journey into the mountains with the "40 mile" radius compass setting. Place the compass point down at Oak Hill and draw a circle. Now name the six largest towns which lie on or closest to this circle and then compute their average population.

A.	TOWN	POPULATION
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

B. Average population: \_\_\_\_\_

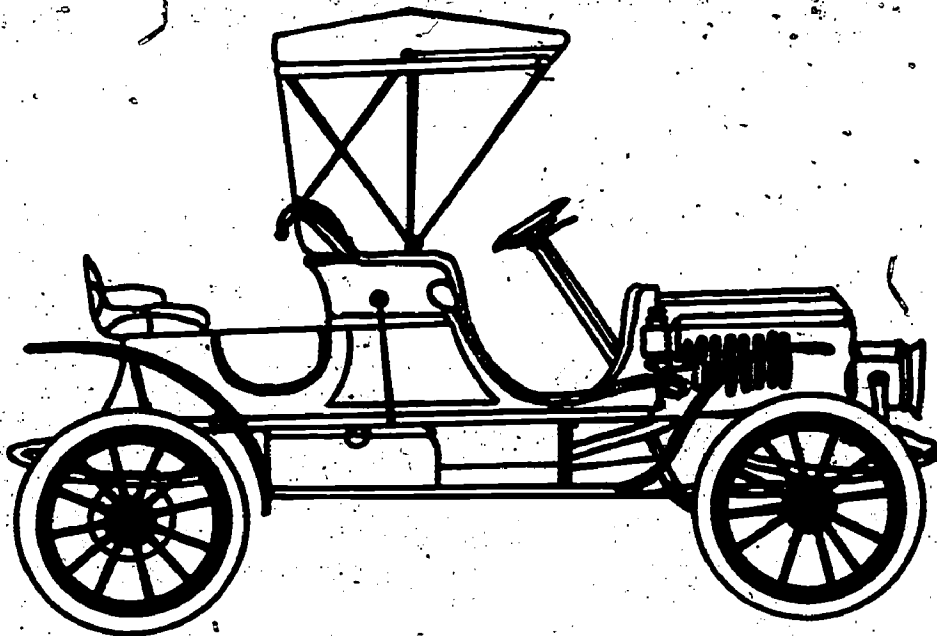
4. From these three problems one may rightly conclude that the population of North Carolina is concentrated in the piedmont section of the state. But it is wise to be alert to the possibility that statistics can be used to misrepresent a given situation. The following is an example of how easy it is to mislead people by selecting information to represent an incorrect point of view. If you were interested in conveying the idea that the population of the Piedmont is about the same as that of the Mountains and Coastal Plains; then you might direct someone to draw a circle with a radius of 40 miles around the Piedmont community of Level Cross. The average population of the six largest towns on this circle will differ greatly from the results of problem #2.

A.	TOWN	POPULATION
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

B. Average population: \_\_\_\_\_

C. Estimate how many times greater the average population was as determined in # 2?  
\_\_\_\_\_

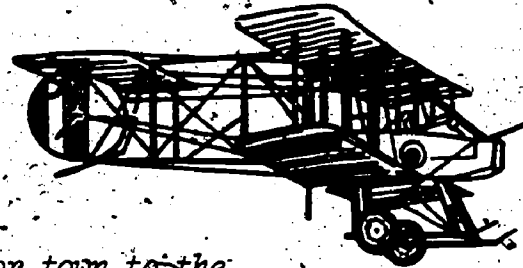
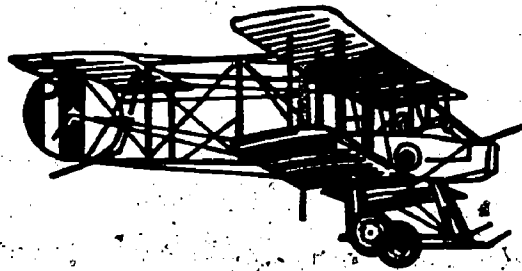
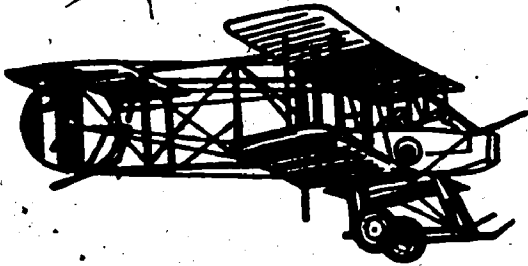
D. Now divide the result you obtained in # 2 B by your answer in # 4 B. Carry out the division to the nearest tenth and compare this answer to your estimate in # 4 B. \_\_\_\_\_ times greater.



ROUNDING TO TENS

DIRECTIONS: *Round the population figure of each city or town to the nearest ten.*

- |                         |                      |                            |
|-------------------------|----------------------|----------------------------|
| 1. Morehead City _____  | 8. Smithtown _____   | 14. Mount Olive _____      |
| 2. Severn _____         | 9. Winton _____      | 15. Mortimer _____         |
| 3. Lumber Bridge _____  | 10. Snow Hill _____  | 16. North Wilkesboro _____ |
| 4. Hendersonville _____ | 11. Tarheel _____    | 17. Shallotte _____        |
| 5. Rowland _____        | 12. Autryville _____ | 18. Love Valley _____      |
| 6. Atlantic Beach _____ | 13. Belhaven _____   | 19. Raleigh _____          |
| 7. Washington _____     |                      | 20. Sims _____             |



ROUNDING TO HUNDREDS

DIRECTIONS: *Round the population figure of each city or town to the nearest hundred.*

- |                       |                          |
|-----------------------|--------------------------|
| 1. Shelby _____       | 11. Boone _____          |
| 2. Polkton _____      | 12. Elizabethtown _____  |
| 3. Lattimore _____    | 13. Pittsboro _____      |
| 4. Kelford _____      | 14. Trenton _____        |
| 5. Powellsville _____ | 15. Butner _____         |
| 6. Roxobel _____      | 16. Concord _____        |
| 7. Seagrove _____     | 17. Lincolnton _____     |
| 8. Hillsboro _____    | 18. Roanoke Rapids _____ |
| 9. Fort Bragg _____   | 19. Lake Waccamaw _____  |
| 10. Coats _____       | 20. Rose Hill _____      |



ROUNDING  
TO  
THOUSANDS

DIRECTIONS: *Round the population figure of each town or city to the nearest thousand.*

1. Fayetteville \_\_\_\_\_

6. Rocky Mount \_\_\_\_\_

2. Denton \_\_\_\_\_

7. Durham \_\_\_\_\_

3. Charlotte \_\_\_\_\_

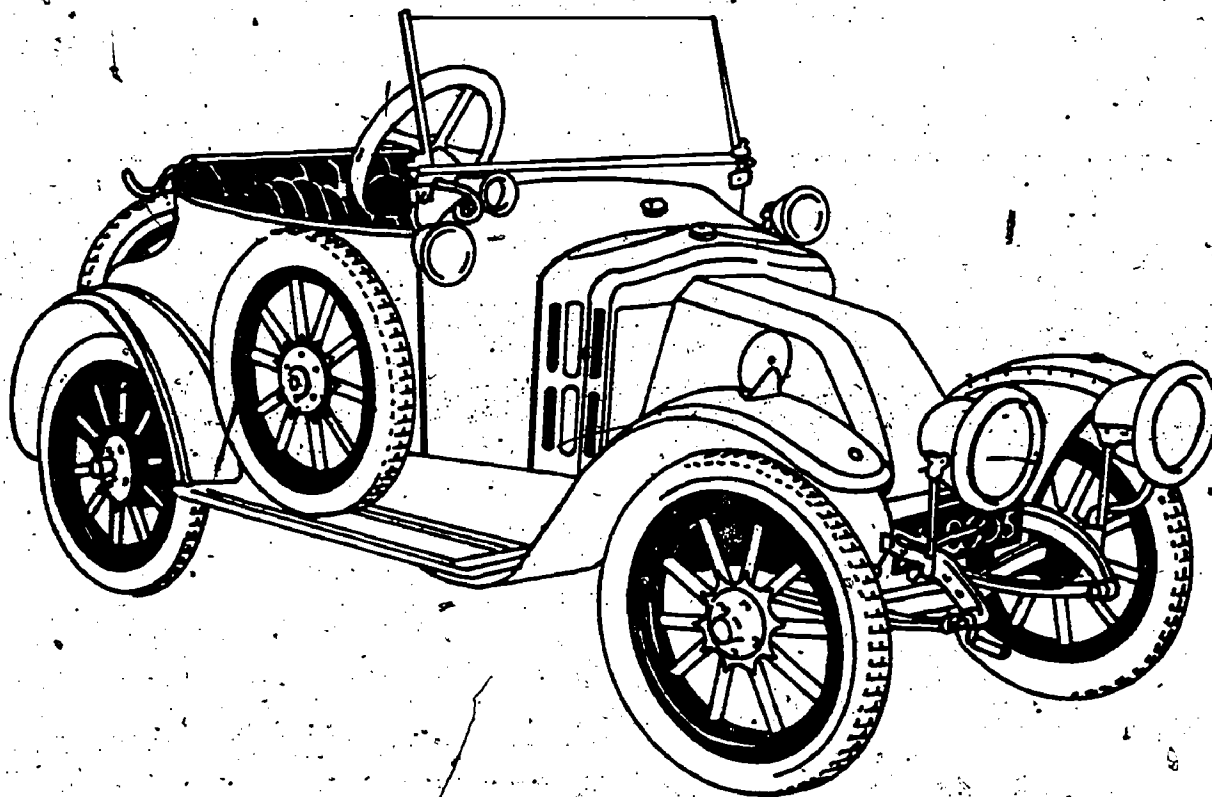
8. Lenoir \_\_\_\_\_

4. Monroe \_\_\_\_\_

9. Gastonia \_\_\_\_\_

5. Salisbury \_\_\_\_\_

10. Eden \_\_\_\_\_



11. Greenville \_\_\_\_\_

16. Davidson \_\_\_\_\_

12. Hickory \_\_\_\_\_

17. Elizabeth City \_\_\_\_\_

13. Kinston \_\_\_\_\_

18. Greensboro \_\_\_\_\_

14. Mount Airy \_\_\_\_\_

19. Henderson \_\_\_\_\_

15. Goldsboro \_\_\_\_\_

20. Plymouth \_\_\_\_\_

# LAST ROUND UP

## ROUNDING TO TENS, HUNDREDS, THOUSANDS

Directions: Round the population figure of each city or town to the nearest ten, hundred, thousand

1. Spindale \_\_\_\_\_ (ten)  
\_\_\_\_\_ (hundred)  
\_\_\_\_\_ (thousand)

2. Reidsville \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Biscoe \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Chapel Hill \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Hamlet \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Parkersburg \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Jefferson \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

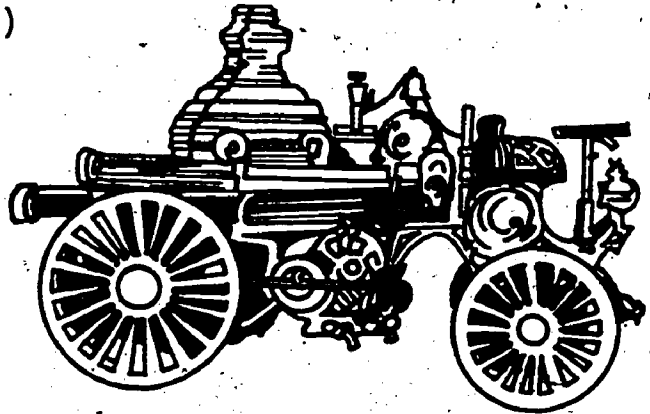
8. Winston-Salem \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Tarboro \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. New Bern \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. Rockwell \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Camp Lejeune \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



13. Madison \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. Princeton \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. Clyde \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

16. Wilmington \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

17. Asheboro \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

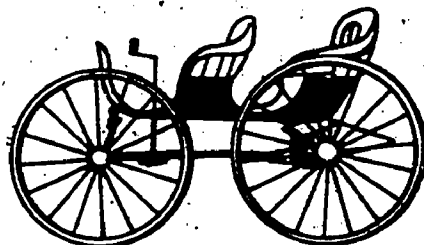
18. Williamston \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. Asheville \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

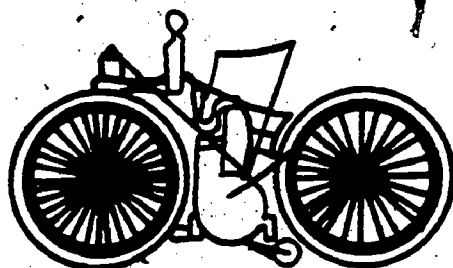
20. Statesville \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## HOW MUCH LARGER?? --- HOW MUCH SMALLER??

1. Elm City is about \_\_\_\_\_ times larger than Atlantic Beach.
2. Charlotte is about \_\_\_\_\_ times larger than Durham.
3. Elizabeth City is about \_\_\_\_\_ times smaller than Greenville.
4. Hickory is about \_\_\_\_\_ times larger than Garner.
5. Alexander Hills is about \_\_\_\_\_ times smaller than Jacksonville.



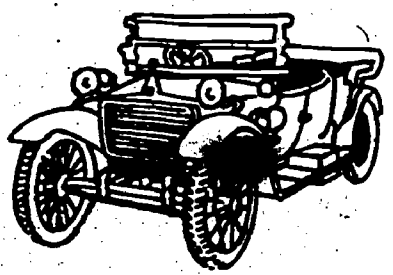
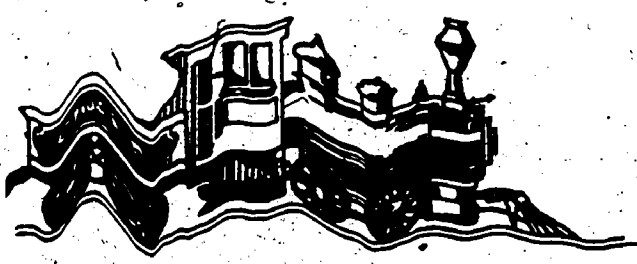
6. Everetts is about \_\_\_\_\_ times smaller than Hazelwood.
7. Shelby is about \_\_\_\_\_ times larger than Rockwell.
8. Nashville is about \_\_\_\_\_ times larger than Nags Head.
9. Acme is about \_\_\_\_\_ times larger than Kelford.
10. St. Pauls is about \_\_\_\_\_ times smaller than Wilmington.



# KNOW YOUR NEIGHBORS

**DIRECTIONS:** Use your road map and census information to answer these questions.

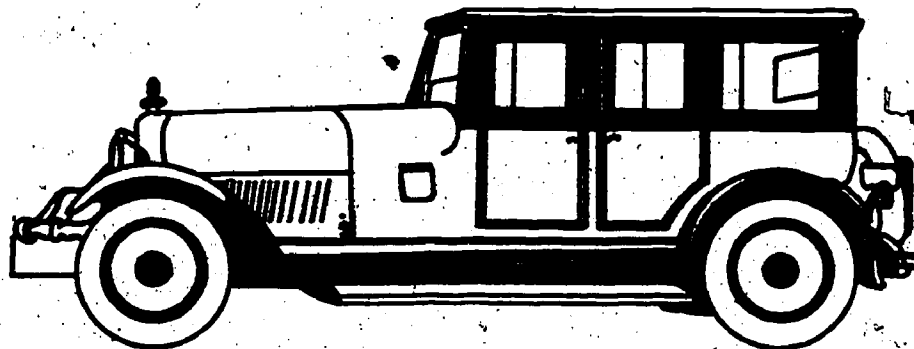
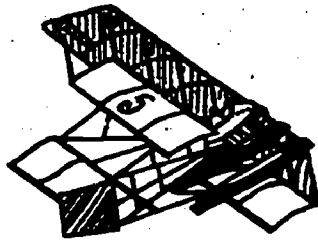
1. What percent of the counties border Tennessee? \_\_\_\_\_
2. Find the total population of the counties which border Tennessee.
3. What percent of North Carolina's population lives in counties bordering Tennessee? (Answer to the nearest tenth of a percent)
4. What percent of the counties border Virginia? \_\_\_\_\_
5. Find the total population of the counties which border Virginia.
6. What percent of North Carolina's population lives in counties bordering Virginia? (Answer to the nearest tenth of a percent)
7. What percent of the counties border South Carolina? \_\_\_\_\_
8. Find the total population of the counties which border South Carolina.
9. What percent of North Carolina's population lives in counties bordering South Carolina? \_\_\_\_\_
10. What percent of our State's counties border Georgia? \_\_\_\_\_
11. Find the total population of the counties bordering on Georgia.
12. What percent of North Carolina's population lives in counties bordering on Georgia? (Answer to the nearest tenth of a percent)
13. What percent of North Carolina's counties do not have a common boundary with another state? \_\_\_\_\_



## MILEAGE REIMBURSEMENT

**DIRECTIONS:** Given below is the mileage various salesmen for the High Pressure Water Hose Company turned in to their company for automobile travel on the job. If the company allows them thirteen (13) cents per mile, what payment will each of these High Pressure salesmen receive?

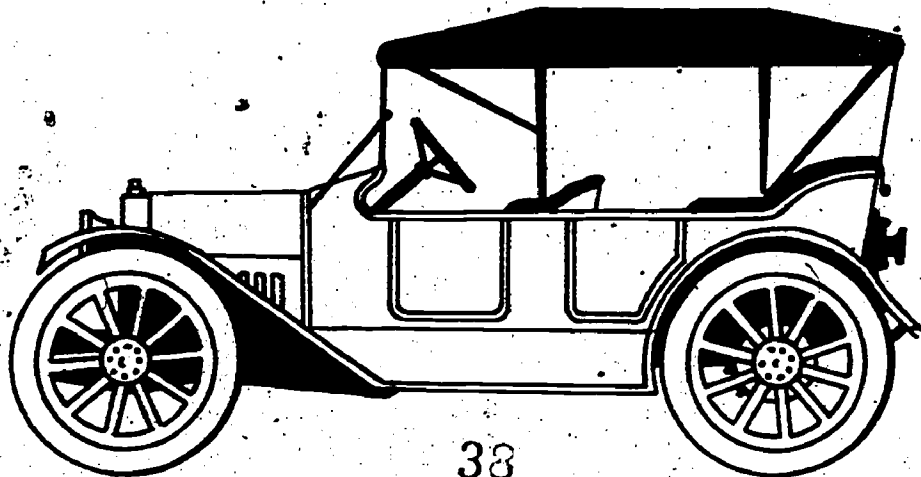
<u>SALESMEN</u>	<u>MILEAGE</u>	<u>AMOUNT OF PAYMENT</u>
1. A. Adams	692	\$ _____
2. B. Boggs	1084	\$ _____
3. C. Clark	1733	\$ _____
4. D. Davis	932	\$ _____
5. E. Edwards	868	\$ _____
6. F. Floyd	1872	\$ _____
7. G. Garcia	617	\$ _____
8. H. Herman	1125	\$ _____
9. I. Isley	711	\$ _____
10. J. James	1459	\$ _____



EXPENSE ACCOUNTS

DIRECTIONS: If these salesmen are allowed a \$20.00 per night lodging allowance and \$17.50 per day for meals and other expenses, how much will each receive in expenses if he is on the road for the indicated travel?

<u>Salesmen</u>	<u>Days &amp; Nights of Travel</u>	<u>Amount Received</u>
1. A. Adams	5	\$ _____
2. B. Boggs	3	\$ _____
3. C. Clark	7	\$ _____
4. D. Davis	12	\$ _____
5. E. Edwards	11	\$ _____
6. F. Floyd	4	\$ _____
7. G. Garcia	3	\$ _____
8. H. Herman	6	\$ _____
9. I. Isley	10	\$ _____
10. J. James	15	\$ _____



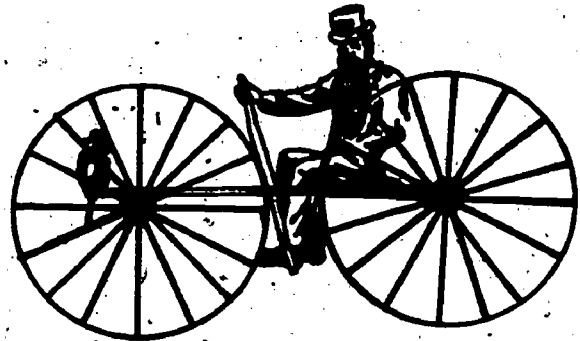
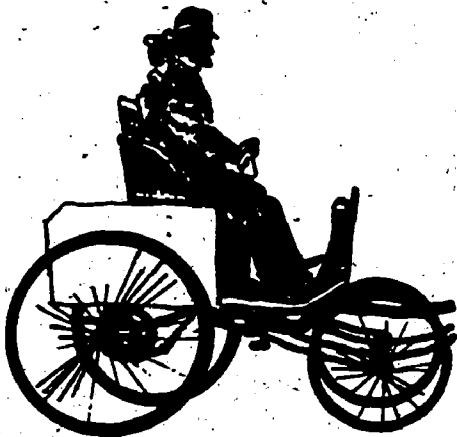
### CAN YOU FIND THE CORRECT INTERSECTION?

Each of the following pairs of towns is located the same straight, airline distance from a third town. This distance is given in parentheses. Can you determine the names of the unidentified towns?

1. Smithfield, Chapel Hill (27 miles) \_\_\_\_\_
2. Albemarle, Yadkinville (33 miles) \_\_\_\_\_
3. Shelby, Taylorsville (34 miles) \_\_\_\_\_
4. Snow Hill, Washington (20 miles) \_\_\_\_\_
5. Burgaw, Comfort (23 miles) \_\_\_\_\_
6. Rockingham, West End (15 miles) \_\_\_\_\_

The mileages to the unnamed towns differ in the last four exercises. Can you determine the identity of these towns?

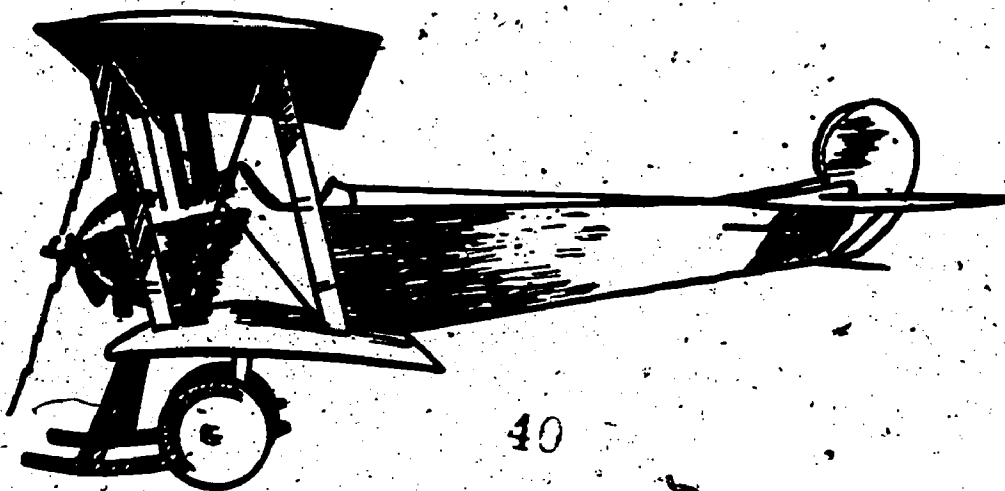
7. 22 miles from Southport and 28 miles from Holly Ridge \_\_\_\_\_
8. 64 miles from Shelby and 93 miles from N. Wilkesboro \_\_\_\_\_
9. 46 miles from Mocksville and 19 miles from Liberty \_\_\_\_\_
10. 60 miles from Clinton and 38 miles from Northview \_\_\_\_\_



## COUNTY WISE

DIRECTIONS: Use the official 1970 census information included in this unit to answer these questions.

1. Which county has the largest population? \_\_\_\_\_  
Which county has the smallest population? \_\_\_\_\_  
What is the difference in the two populations? \_\_\_\_\_
2. Name the county that is closest to the average population of all the counties. \_\_\_\_\_
3. If 15% of the population of Jones County have red hair, how many people have red hair there? \_\_\_\_\_
4. If 8 1/2% of the population of Rowan County can row a rowboat, how many boat rowers are there in Rowan County? \_\_\_\_\_
5. If 75% of the citizens of Dare County would dare to go fishing at one time, how many daring Dare Countians would be fishing? \_\_\_\_\_
6. It has been rumored that 12,067 of the citizens of Rockingham County had ham for breakfast yesterday. If this is correct, what percent of the people of Rockingham County had ham for breakfast yesterday? \_\_\_\_\_
7. If 29,683 of the citizens of Gaston County buy gas from the Hi-Lo Gas Company (High price-Low quality), what percent of the Gaston County population buys gas from Hi-Lo? \_\_\_\_\_
8. If 952 more people were to move to Moore County, what percent of the population would be new to Moore County? \_\_\_\_\_
9. In 1970, about 6,400 students attended school in Martin County. What percent of the Martin County population was in school that year? \_\_\_\_\_
10. What percent of the counties in the State each had more than 100,000 residents in 1970? \_\_\_\_\_

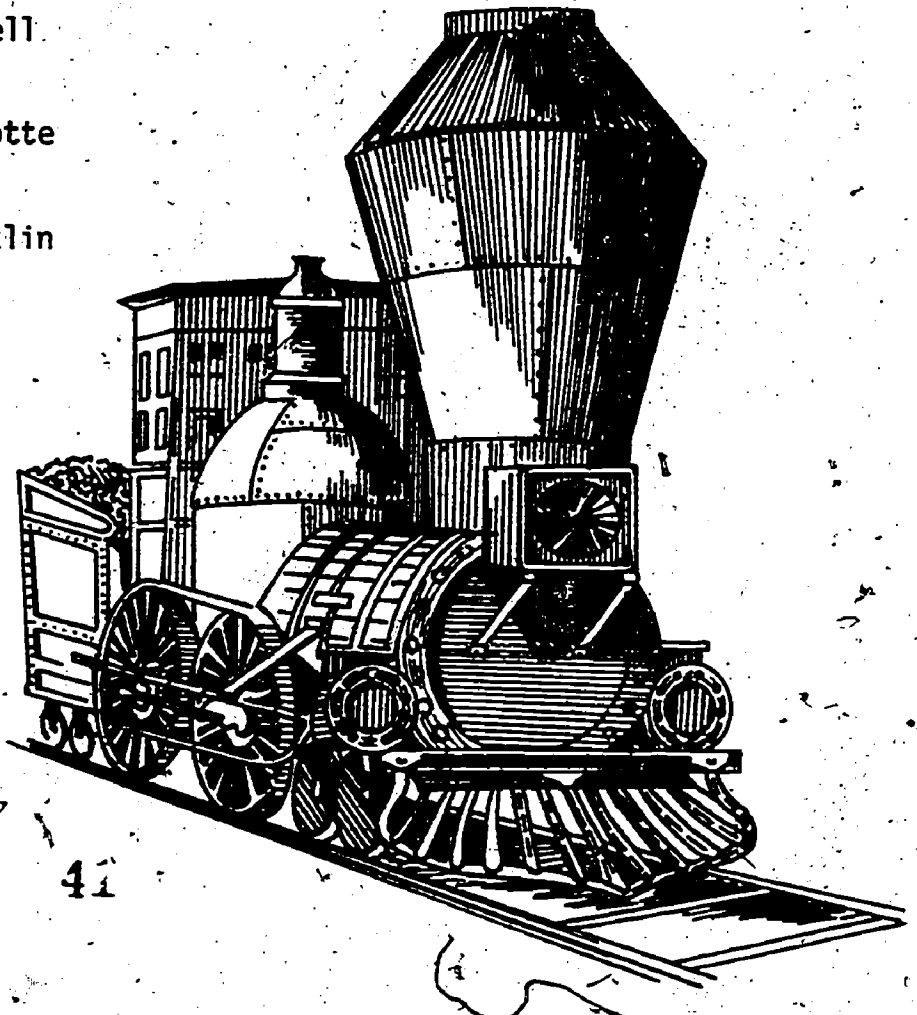




CHALLENGE PAGE !!

DIRECTIONS: Tell what each pair of cities has in common.

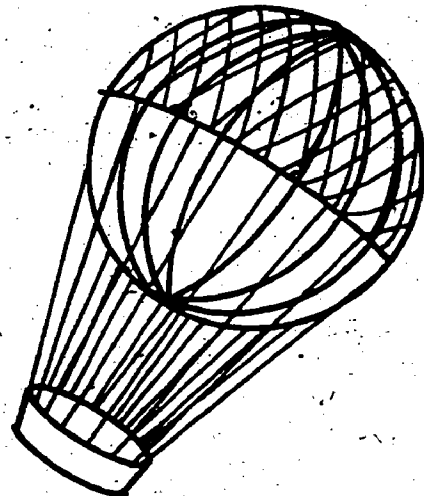
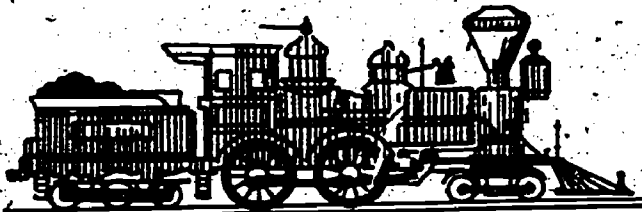
1. Manteo and Ocracoke
2. Henderson and Dunn
3. Fayetteville and Goldsboro
4. Danbury and Atlantic Beach
5. Ansonville and Swan Quarter
6. Washington and New Bern
7. Fairfield and Terrell
8. Rodanthe and Postell
9. Bolivia and Shalotte
10. Plymouth and Franklin



## GROWING PAINS

**DIRECTIONS:** Use your census information to help you answer these questions.

1. If 1508 skiers moved to Banner Elk, what would be the percent of increase in the population?
2. If the population of Advance has increased by 100% since 1970, how many people live there?
3. If the residents of Ashe County were to be charged a yearly "fresh air" tax of \$1.54 per person, how much money would be raised through such a levy?
4.
  - a. Suppose H. Too Oh was the only supplier of water in Vance County and that he charged each resident \$21.10 per year for water. How much money could H. Too Oh earn at this rate in a year?
  - b. If H. Too Oh were to increase the water rates by  $7\frac{1}{2}\%$ , how much would the new rate be for each resident? How much additional money would H. Too Oh make each year due to the rate increase?
  - c. H. Too Oh is hopeful that the population of Vance County will increase by 15% during the next five years. If this were to happen, how many new customers would H. Too Oh have?
5.
  - a. On a recent day the owner of the Park-Er-Here parking lots had as many customers as there are citizens of Hudson. If the daily parking fee is \$1.75, how much were the daily receipts?
  - b. The Park-Er-Here lots have to pay the city a 15% franchise tax. How much did they have to pay the city on the day mentioned above?
6. If one-fifth of the residents of Surry County were to ride to church in horse-drawn carriages, how many people in Surry County would be riding in surreys?
7. If 23% of the citizens of Macon County worked for Prophets' Profitable Enterprizes, how many employees would this be?



## ODOMETER READINGS

**DIRECTIONS:** *The first number listed below is your odometer reading from a given point in North Carolina; the second number is your odometer reading at the end of the trip. Find the number of miles traveled on each trip.*

*In each set of examples an error has been made in recording one of the odometer readings. Use a road atlas to determine which is most likely incorrect. Place a check beside the incorrect distance. What is your guess as to the error?*

Beginning Location	Reading	Ending Location	Reading	Miles Traveled
1 a. Raleigh	12,360.5	Atlanta, Ga.	12,783.6	_____
b. Raleigh	24,000.2	New Orleans, La.	25,957.4	_____
c. Raleigh	14,061.4	Miami, Fla.	14,895.7	_____
2 a. Charlotte	37,877.7	New York, N.Y.	38,491.8	_____
b. Charlotte	34,567.0	Miami, Fla.	35,309.4	_____
c. Charlotte	75,055.2	San Francisco, Cal.	76,797.3	_____
3 a. Asheville	27,265.0	Atlanta, Ga.	27,472.1	_____
b. Asheville	31,313.1	Denver, Colorado	31,827.6	_____
c. Asheville	52,780.1	Memphis, Tenn.	53,313.7	_____
4 a. Winston-Salem	74,210.9	Washington, D.C.	74,514.9	_____
b. Winston-Salem	13,644.3	Knoxville, Tenn.	14,891.8	_____
c. Winston-Salem	6,321.9	Dallas, Texas	7,419.9	_____
5 a. Greensboro	51,006.7	Niagara Falls, N.Y.	51,618.9	_____
b. Greensboro	64,335.5	Portland, Oregon	67,140.8	_____
c. Greensboro	26,627.9	Vicksburg, Miss.	28,389.7	_____
6 a. Fayetteville	45,104.6	Atlanta, Ga.	45,476.6	_____
b. Fayetteville	13,407.6	Boston, Mass.	14,164.5	_____
c. Fayetteville	15,116.7	Gettysburg, Pa.	16,511.4	_____

## METRICATED PROBLEMS

1.
  - a. Ball D. Head and Curt E. Head are sand dunes salesmen at Nags Head. They drive a 1942 MG which has a speedometer calibrated in kilometers per hour. If the Head brothers averaged driving their car 80 kilometers per hour on a  $6\frac{1}{2}$  hour trip, how many kilometers did they travel?
  - b. If the Head brothers average driving 2654 kilometers per month, how far would they drive in a year?
  - c. Curt E. Head recently drove 340 kilometers in  $4\frac{1}{4}$  hours. What was his average rate of speed?
  - d. Ball D. Head averaged driving 75 kilometers per hour on a 925 kilometer trip. How long did the trip take?
2.
  - a. Hunter Bargon bought 124 cases of Really Oily Motor Oil from C.C.'s Overseas Importees. If each case contained 24 liters of oil, how many liters of oil did he buy?
  - b. If Hunter paid \$.125 per liter for the oil, how much did he spend?
  - c. Hunter plans to mark the price of the oil up 200% and sell it at his store. How much would 8 liters of oil cost after the price increase?
3.
  - a. Poore Lucke won a trip for two to Siberia. He and his wife, Goode, plan to tour the country once they get there. One of their road maps has a scale of  $25\text{ mm} = 60\text{ km}$ . If the distance between two locations on the map is 125 mm, how many kilometers apart are the two cities?
  - b. A distance of 360 km would be represented by \_\_\_\_\_ mm on the map mentioned above.
  - c. Poore Lucke thought that they would try to travel 945 km the first three days they were in Siberia. What would be their average daily traveling distance if they were to do what Poore had planned to accomplish?
  - d. As luck would have it, the Lucke's car broke down after they had traveled .8 of their three-day trip. How many kilometers had they driven before the breakdown? How much further did they have to travel?
  - e. The Luckes found out that they could not purchase more than 10 liters of gasoline at each service station stop. If they had to pay 6.4 kopecks for each liter of gasoline, how much would 9.8 liters cost?

ESTIMATING AND FINDING

DISTANCE

TIME

COST.....

DIRECTIONS: On the following trips our car will average 50 miles per hour and get 15 miles per gallon on gasoline which costs 48.9¢ per gallon.

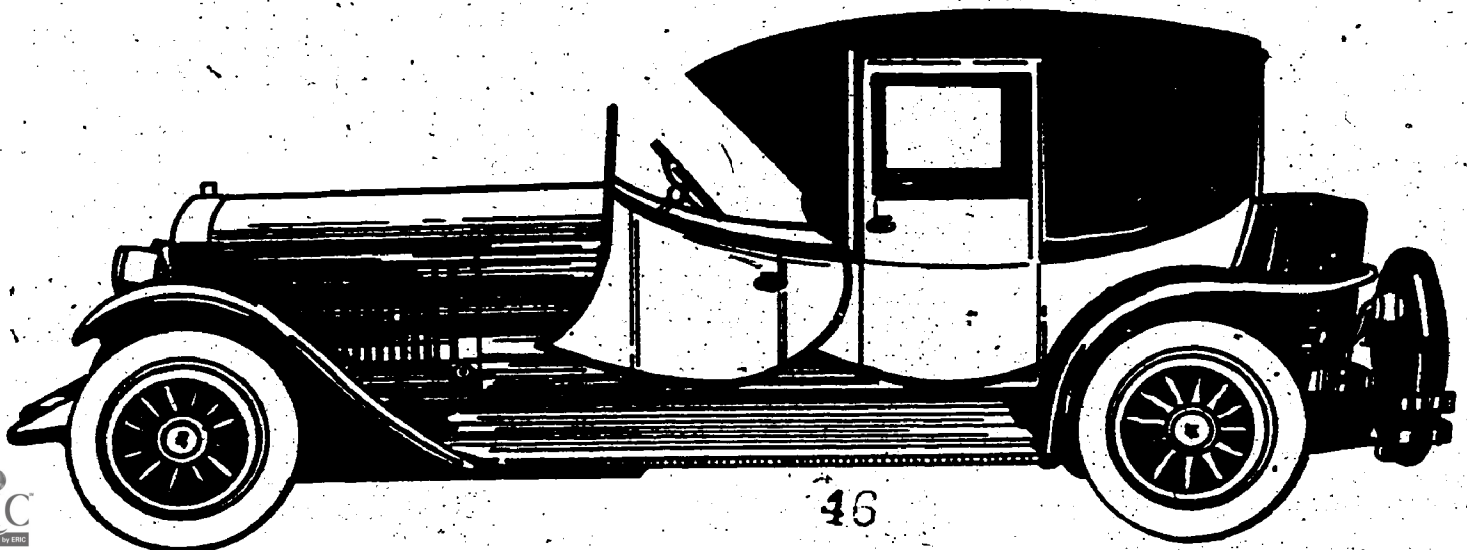
Look at the map and ESTIMATE the DISTANCE between the towns listed below. After recording this information in the first column, ESTIMATE HOW LONG you would expect each trip to take and write it in the second column. Finally, write the ESTIMATED COST of the trip in the third column.

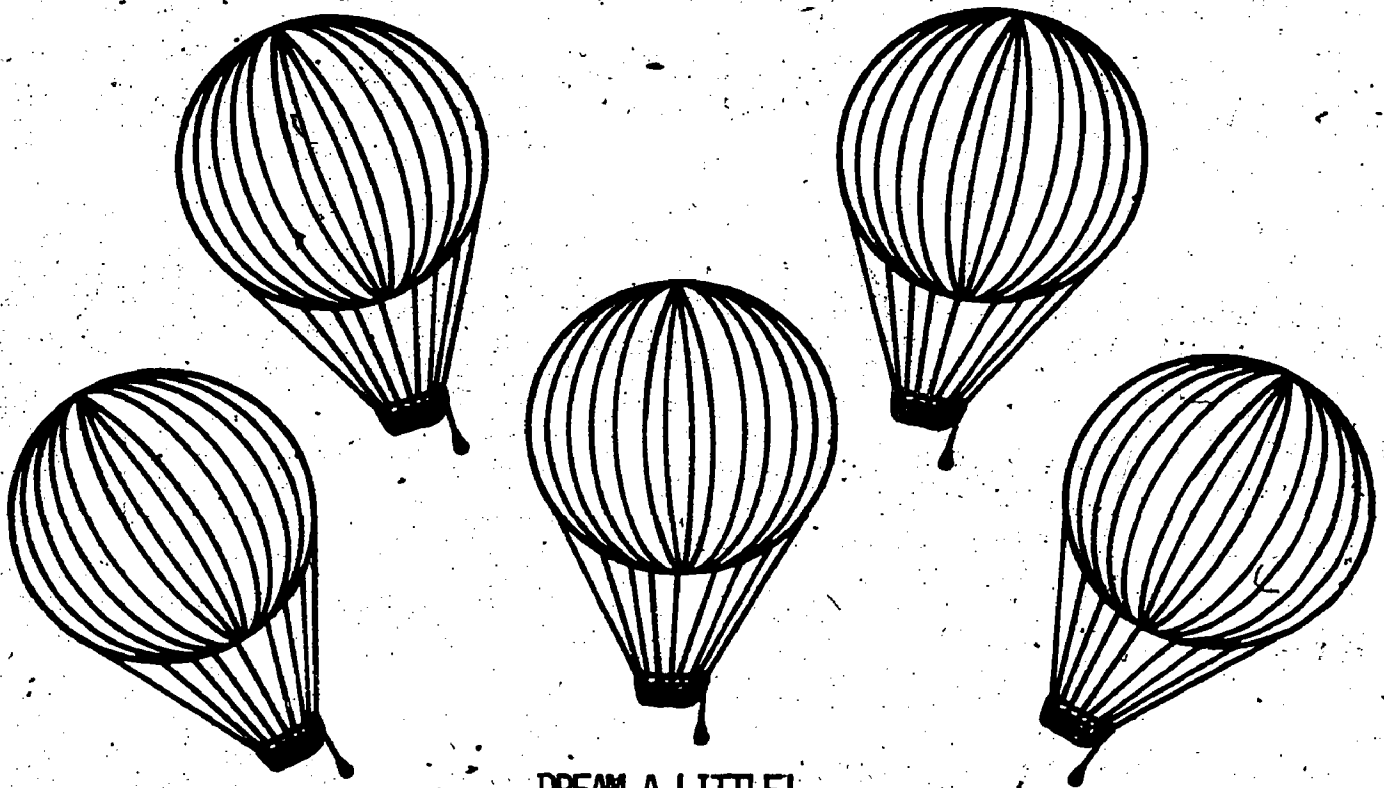
Trip	Estimated Distance	Estimated Time	Estimated Cost
1. From Winston-Salem to Raleigh	_____	_____	_____
2. From Gastonia to Greensboro	_____	_____	_____
3. From Charlotte to Wilmington	_____	_____	_____
4. From Fayetteville to Elizabeth City	_____	_____	_____

Now use the mileage chart on the map to determine the distance between towns and then calculate the time and cost of each trip using the mileage and the information provided at the top of the page.

	Distance	Time	Cost
5. From Winston-Salem to Raleigh	_____	_____	_____
6. From Gastonia to Greensboro	_____	_____	_____
7. From Charlotte to Wilmington	_____	_____	_____
8. From Fayetteville to Elizabeth City	_____	_____	_____

Compare your estimates with the actual calculated results for each trip. Are you close in your estimates? Is there a pattern? Are the answers usually high or low?





### DREAM A LITTLE!

**DIRECTIONS:** *Within your group, plan a trip from your town to some other city in North Carolina at least 100 miles away. Include the following items in your planning:*

1. **Route:** List the highways, stops, and places of interest for going and returning.
2. **Distance:** How far do you anticipate traveling on the trip?



3. Time: How long will the trip take? Include estimates for food, gasoline and sightseeing stops.

4. Cost: List expense areas and estimated amounts. Include such things as food, gasoline, and sightseeing. Indicate the anticipated gas mileage of your car and the current cost of gasoline.

5. How long would you have to save to pay for such a trip? Is it worth the cost?



OFFICIAL 1970 CENSUS

STATE OF NORTH CAROLINA . . . . . 5,082,059

Counties

Alamance . . . . .	96,362	Gaston . . . . .	148,415	Pamlico . . . . .	9,467
Alexander . . . . .	19,466	Gates . . . . .	8,524	Pasquotank . . . . .	26,824
Alleghany . . . . .	8,134	Graham . . . . .	6,562	Pender . . . . .	18,149
Anson . . . . .	23,488	Granville . . . . .	32,762	Perquimans . . . . .	8,351
Ashe . . . . .	19,571	Greene . . . . .	14,967	Person . . . . .	25,914
Avery . . . . .	12,655	Guilford . . . . .	288,590	Pitt . . . . .	73,900
				Polk . . . . .	11,735
Beaufort . . . . .	35,980	Halifax . . . . .	53,884	Randolph . . . . .	76,358
Bertie . . . . .	20,528	Harnett . . . . .	49,667	Richmond . . . . .	39,889
Bladen . . . . .	26,477	Haywood . . . . .	41,710	Robeson . . . . .	84,842
Brunswick . . . . .	24,223	Henderson . . . . .	42,804	Rockingham . . . . .	72,402
Buncombe . . . . .	145,056	Hertford . . . . .	23,529	Rowan . . . . .	90,035
Burke . . . . .	60,364	Hoke . . . . .	16,436	Rutherford . . . . .	47,337
		Hyde . . . . .	5,571		
Cabarrus . . . . .	74,629	Iredell . . . . .	72,197	Sampson . . . . .	44,954
Caldwell . . . . .	56,699	Jackson . . . . .	21,593	Scotland . . . . .	26,929
Camden . . . . .	5,453	Johnston . . . . .	61,737	Stanly . . . . .	42,822
Carteret . . . . .	31,603	Jones . . . . .	9,779	Stokes . . . . .	23,782
Caswell . . . . .	19,055			Surry . . . . .	51,415
Catawba . . . . .	90,873			Swain . . . . .	7,861
Chatham . . . . .	29,554				
Cherokee . . . . .	16,330	Lee . . . . .	30,467	Transylvania . . . . .	19,713
Chowan . . . . .	10,764	Lenoir . . . . .	55,204	Tyrrell . . . . .	3,806
Clay . . . . .	5,180	Lincoln . . . . .	32,682	Union . . . . .	54,714
Cleveland . . . . .	72,556	McDowell . . . . .	30,648	Vance . . . . .	32,691
Columbus . . . . .	46,937	Macon . . . . .	15,788	Wake . . . . .	228,453
Craven . . . . .	62,554	Madison . . . . .	16,003	Warren . . . . .	15,810
Cumberland . . . . .	212,042	Martin . . . . .	24,730	Washington . . . . .	14,038
Currituck . . . . .	8,976	Mecklenburg . . . . .	354,656	Watauga . . . . .	23,404
		Mitchell . . . . .	13,447	Wayne . . . . .	85,408
Dare . . . . .	6,995	Montgomery . . . . .	19,267	Wilkes . . . . .	49,524
Davidson . . . . .	95,627	Moore . . . . .	39,048	Wilson . . . . .	57,486
Davie . . . . .	18,855				
Duplin . . . . .	38,015	Nash . . . . .	59,122	Yadkin . . . . .	24,599
Durham . . . . .	132,681	New Hanover . . . . .	82,996	Yancey . . . . .	12,629
Edgecombe . . . . .	52,341	Northampton . . . . .	24,009		
Forsyth . . . . .	214,348	Onslow . . . . .	103,126		
Franklin . . . . .	26,820	Orange . . . . .	57,707		

POPULATION OF INCORPORATED AND UNINCORPORATED PLACES OF 1,000 OR MORE

Aberdeen	1,592	Biscoe	1,244	Clarkton	662
Acme	459	Black Creek	449	Clayton	3,103
Advance	206	Black Mountain	3,204	Cleveland	614
Ahoskie	5,105	Bladenboro North (U)	1,705	Clinton	7,157
Albemarle	11,126	Bladenboro	783	Clyde	900
Alexander	988	Blowing Rock	801	Coats	1,051
Alliance	577	Boyer City (U)	2,203	Colerain	373
Andrews	1,384	Boiling Springs	2,284	Columbia	902
Angler	1,431	Boiling Springs Lakes	245	Columbus	731
Ansonville	694	Bolivia	185	Como	211
Apex	2,192	Bolton	534	Concord	18,464
Arapahoe	212	Boone	8,754	Concord North (U)	2,350
Archdale	6,103	Boonville	687	Conetoe	160
Arlington	711	Bostic	289	Conover	3,355
Asheboro	10,797	Brevard	5,243	Conway	694
Asheboro (U)	1,998	Bridgeton	520	Cooleemee (U)	1,115
Asheboro (U)	1,158	Broadway	694	Cornelius	1,296
Asheville	57,681	Brookford	590	Council	38
Askewville	247	Brunswick	206	Cove City	485
Atkinson	325	Bryson City	1,290	Cramerton (U)	2,142
Atlantic	300	Buies Creek	2,024	Creedmoor	1,405
Aulander	947	Bunlevel	200	Creswell	633
Aurora	620	Butn	284	Crossnore	264
Autryville	213	Burgaw	1,744	Culberson	83
Ayden	3,450	Burlington	35,930	Dallas	4,059
Badin (U)	1,626	Burnsville	1,348	Danbury	152
Bailey	724	Butner	3,538	Daniels-Rhyne (U)	2,273
Bakersville	409	Calypso	462	Davidson	2,931
Balfour	2,014	Cameron	204	Dellview	11
Balfours	4,836	Camp Lejeune (U)	34,549	Denton	1,017
Banner Elk	754	Candor	561	Dillsboro	215
Bannertown	1,138	Canton	5,158	Dobson	933
Barker	2,933	Cape Carteret	616	Dover	585
Bath	231	Carolina Beach	1,663	Drexel	1,431
Battleboro	688	Carrboro	3,472	Dublin	283
Bayboro	665	Carthage	1,034	Dudley	199
Beargrass	99	Cary	7,430	Dundarrach	53
Beaufort	2,368	Cashiers	230	Dunn	8,302
Belhaven	2,259	Castalia	265	Durham	95,438
Belmont	2,814	Catawba	565	East Bend	485
Belmont-South	2,278	Centerville	123	East Flat Rock (U)	2,627
B-S Rosemary	2,260	Cerro Gordo	184	East Laurinburg	487
Benson	2,267	Chadbourn	2,213	East Marion (U)	3,015
Bessemer	1,217	Chadwick Acres	12	East Rockingham	2,858
Bethel	1,514	Chapel Hill	25,537	(U)	2,858
Beulaville	1,156	Charlotte	241,178	East Spencer	2,217
Biltmore	1,298	Cherry Point	12,029	Edenton	4,766
		Cherryville	5,258	Eden	15,871
		China Grove	1,788	Edward	115
		Chocowinity	566	Elizabeth City	14,069
		Claremont	788	Elizabethtown	1,418



Elkin . . . . .	2,899	Grimesland . . . . .	394	Jupiter . . . . .	208
Elk Park . . . . .	503	Grover . . . . .	555	Kannapolis (U) . . . . .	36,293
Ellenboro . . . . .	465	Guilford College . . . . .	61	Kelford . . . . .	295
Ellerbe . . . . .	913	Halifax . . . . .	335	Kenansville . . . . .	762
Elm City . . . . .	1,201	Hamilton . . . . .	579	Kenly . . . . .	1,370
Elon College . . . . .	2,150	Hamlet . . . . .	4,627	Kernersville . . . . .	4,815
Emerald Isle . . . . .	122	Harkers Island . . . . .		Kill Devil Hills . . . . .	357
Enfield . . . . .	3,272	(U) . . . . .	1,633	King (U) . . . . .	1,033
Erwin . . . . .	2,852	Harmony . . . . .	377	Kings Mountain . . . . .	8,465
Eureka . . . . .	263	Harrells . . . . .	249	Kinston . . . . .	22,309
Everetts . . . . .	198	Harrellsville . . . . .	165	Kittrell . . . . .	427
Fair Bluff . . . . .	1,039	Hassell . . . . .	160	Knightdale . . . . .	815
Fairmont . . . . .	2,827	Havelock . . . . .	5,283	Kure Beach . . . . .	394
Faison . . . . .	598	Haw River (U) . . . . .	1,542	La Grange . . . . .	2,558
Faith . . . . .	506	Hayesville . . . . .	428	Lake Lure . . . . .	456
Falcon . . . . .	357	Hazelwood . . . . .	2,057	Lake Waccamaw . . . . .	924
Falkland . . . . .	130	Henderson . . . . .	13,896	Landis . . . . .	2,297
Farmville . . . . .	4,424	Henderson North . . . . .		Landis North-	
Fayetteville . . . . .	53,510	(U) . . . . .	1,997	East (U) . . . . .	1,353
Flat Rock (U) . . . . .	1,688	Henderson South . . . . .		Lansing . . . . .	283
Forest City . . . . .	7,179	(U) . . . . .	1,843	Lasker . . . . .	114
Fort Bragg . . . . .	46,995	Hendersonville . . . . .	6,443	Lattimore . . . . .	257
Fountain . . . . .	434	Hendersonville . . . . .		Laurel Hill (U) . . . . .	1,215
Four Oaks . . . . .	1,057	West (U) . . . . .	1,558	Laurel Park . . . . .	581
Franklin . . . . .	2,336	Henrietta . . . . .		Laurinburg . . . . .	8,859
Franklinton . . . . .	1,459	Avondale (U) . . . . .	1,307	Laurinburg . . . . .	
Franklinville . . . . .	794	Hertford . . . . .	2,023	West (U) . . . . .	1,156
Fremont . . . . .	1,596	Hickory . . . . .	20,569	Lawndale . . . . .	544
Fuquay-Varina . . . . .	3,576	Hickory East (U) . . . . .	4,181	Lenoir . . . . .	14,705
Garland . . . . .	656	Hickory North . . . . .		Lewiston . . . . .	327
Garner . . . . .	4,923	(U) . . . . .	2,325	Lexington . . . . .	17,205
Garysburg . . . . .	231	Highlands . . . . .	583	Liberty . . . . .	2,167
Gaston . . . . .	1,105	High Point . . . . .	63,204	Lilesville . . . . .	641
Gastonia . . . . .	47,142	Hildebran . . . . .	481	Lillington . . . . .	1,155
Gastonia East (U) . . . . .	2,370	Hillsboro . . . . .	1,444	Lincolnton . . . . .	5,293
Gastonia North(U) . . . . .	1,316	Hobgood . . . . .	530	Linden . . . . .	205
Gastonia South(U) . . . . .	3,718	Hoffman . . . . .	434	Littleton . . . . .	903
Gatesville . . . . .	338	Holly Ridge . . . . .	415	Long Beach . . . . .	493
Gibson . . . . .	502	Holly Springs . . . . .	697	Longhurst (U) . . . . .	1,485
Gibsonville . . . . .	2,019	Hookerton . . . . .	441	Longview . . . . .	3,360
Glen Alpine . . . . .	797	Hope Mills . . . . .	1,721	Longwood Park . . . . .	
Glen Raven (U) . . . . .	2,848	Hot Springs . . . . .	653	(U) . . . . .	1,284
Godwin . . . . .	129	Hudson . . . . .	2,820	Louisburg . . . . .	2,941
Gold Point . . . . .	108	Huntersville . . . . .	1,538	Love Valley . . . . .	40
Goldsboro . . . . .	26,810	Indian Trail . . . . .	405	Lowell . . . . .	3,307
Goldston . . . . .	364	Jackson . . . . .	762	Lucama . . . . .	610
Graham . . . . .	8,172	Jacksonville . . . . .	16,021	Lumber Bridge . . . . .	117
Granite Falls . . . . .	2,388	James City (U) . . . . .	2,577	Lumberton . . . . .	16,961
Granite Quarry . . . . .	1,344	Jamestown . . . . .	1,297	McAdenville . . . . .	950
Greensboro . . . . .	144,076	Jamesville . . . . .	533	McDonald . . . . .	80
Greenville . . . . .	29,063	Jefferson . . . . .	943	McFarlan . . . . .	140
Grifton . . . . .	1,860	Jonesville . . . . .	1,659	Macclesfield . . . . .	536

Macon . . . . .	179	Norwood . . . . .	1,896	Rockingham . . . . .	5,852
Madiason . . . . .	2,018	Oakboro . . . . .	568	Rockwell . . . . .	999
Magnolia . . . . .	614	Oak City . . . . .	559	Rocky Mount . . . . .	34,284
Maiden . . . . .	2,416	Ocean Isle		Rolesville . . . . .	529
Manteo . . . . .	547	Beach . . . . .	78	Ronda . . . . .	465
Margaretsville . . . . .	95	Old Fort . . . . .	676	Roper . . . . .	649
Marietta . . . . .	70	Oriental . . . . .	445	Roseboro . . . . .	1,235
Marion . . . . .	3,335	Orrum . . . . .	162	Rose Hill . . . . .	1,448
Marshall . . . . .	982	Oxford . . . . .	7,178	Rosman . . . . .	407
Mars Hill . . . . .	1,623	Palmyra . . . . .	27	Rowan Mill (U) . . . . .	1,184
Marshville . . . . .	1,405	Pantego . . . . .	218	Rowland . . . . .	1,358
Matthews . . . . .	783	Parkersburg . . . . .	56	Roxboro . . . . .	5,370
Maury . . . . .	421	Parkton . . . . .	550	Roxobel . . . . .	347
Maxton . . . . .	1,885	Parkwood (U) . . . . .	2,267	Royal Pines (U) . . . . .	2,041
Mayodan . . . . .	2,875	Parmele . . . . .	373	Rural Hall (U) . . . . .	2,338
Maysville . . . . .	912	Patterson . . . . .	344	Ruth . . . . .	360
Mebane . . . . .	2,433	Peachland . . . . .	556	Rutherfordton . . . . .	3,245
Micro . . . . .	300	Pembroke . . . . .	1,982	St. Pauls . . . . .	2,011
Middleburg . . . . .	149	Phillipsville		Salemburg . . . . .	669
Middlesex . . . . .	729	(U) . . . . .	1,239	Salisbury . . . . .	22,515
Milton . . . . .	235	Pikeville . . . . .	580	Saluda . . . . .	546
Milwaukee . . . . .	376	Pilot Mountain . . . . .	1,309	Sanford . . . . .	11,716
Mocksville . . . . .	2,529	Pinebluff . . . . .	570	Saratoga . . . . .	391
Monroe . . . . .	11,282	Pinehurst (U) . . . . .	1,056	Scotland Neck . . . . .	2,869
Mooresville . . . . .	8,808	Pine Level . . . . .	983	Seaboard . . . . .	611
Morehead City . . . . .	5,233	Pinetops . . . . .	1,379	Seagrove . . . . .	354
Morganton . . . . .	13,625	Pinetown . . . . .	278	Selma . . . . .	4,356
Morgantown (U) . . . . .	3,547	Pineville . . . . .	1,948	Seven Springs . . . . .	188
Morrisville . . . . .	192	Pink Hill . . . . .	522	Severn . . . . .	356
Mortimer . . . . .	27	Pittsboro . . . . .	1,447	Seymour-Johnson	
Morven . . . . .	562	Plymouth . . . . .	4,774	(U) . . . . .	8,172
Mount Airy . . . . .	7,325	Polkton . . . . .	845	Shalotte . . . . .	597
Mount Gilead . . . . .	1,286	Pollocksville . . . . .	456	Sharpsburg . . . . .	789
Mount Holly . . . . .	5,107	Powellsville . . . . .	247	Shelby . . . . .	16,328
Mount Olive . . . . .	4,914	Princeton . . . . .	1,044	Siler City . . . . .	4,689
Mount Pleasant . . . . .	1,174	Princeville . . . . .	654	Sims . . . . .	205
Murfreesboro . . . . .	3,508	Proctorville . . . . .	157	Skyland . . . . .	2,177
Murphy . . . . .	2,082	Rae ford . . . . .	3,180	Smithfield . . . . .	6,677
Nags Head . . . . .	414	Raleigh . . . . .	121,577	Smithtown . . . . .	196
Nashville . . . . .	1,670	Ramseur . . . . .	1,328	Snow Hill . . . . .	1,359
New Bern . . . . .	14,660	Randleman . . . . .	2,312	South Creek . . . . .	73
Newland . . . . .	524	Raplo . . . . .	2,092	Southern Pines . . . . .	5,937
New London . . . . .	285	Red Oak . . . . .	359	South Goldsboro	
Newport . . . . .	1,735	Red Springs . . . . .	3,383	(U) . . . . .	2,094
New River-		Reidsville . . . . .	13,636	Southport . . . . .	2,220
Gieger (U) . . . . .	8,699	Rhodhiss . . . . .	784	South Salisbury	
Newton . . . . .	7,857	Richfield . . . . .	306	(U) . . . . .	2,199
Newton Grove . . . . .	546	Richlands . . . . .	935	South Wadesboro . . . . .	109
Norlina . . . . .	969	Rich Square . . . . .	1,254	South Weldon (U) . . . . .	1,630
North Belmont		Roanoke Rapids . . . . .	13,508	Sparta . . . . .	1,304
(U) . . . . .	10,759	Robbins . . . . .	1,059	Speed . . . . .	142
North Wilkes-		Robbinsville . . . . .	777	Spencer . . . . .	3,075
boro . . . . .	3,357	Robersonville . . . . .	1,910	Spencer Mountain	300

Spindale . . . . .	3,848	Watha . . . . .	181
Spring Hope . . . . .	1,334	Waxhaw . . . . .	1,248
Spring Lake . . . . .	3,968	Waynesville . . . . .	6,488
Spruce Pine . . . . .	2,333	Weaverville . . . . .	1,280
Staley . . . . .	239	Webster . . . . .	181
Stanfield . . . . .	458	Weldon . . . . .	2,304
Stanley . . . . .	2,336	Wendell . . . . .	1,929
Stanleyville (U) . . . . .	2,362	West Burlington	
Stantonsburg . . . . .	869	(U) . . . . .	1,471
Star . . . . .	892	West Concord (U) . . . . .	5,347
Statesville . . . . .	19,996	West Hillsborough	
Stedman . . . . .	505	(U) . . . . .	1,696
Stem . . . . .	242	West Jefferson . . . . .	889
Stoneville . . . . .	1,030	West Marion (U) . . . . .	3,034
Stonewall . . . . .	335	West Statesville	
Stony Point (U) . . . . .	1,001	(U) . . . . .	3,079
Stovall . . . . .	405	Whispering Pines . . . . .	362
Sunset Beach . . . . .	108	Whitakers . . . . .	926
Surf City . . . . .	166	White Lake . . . . .	232
Swannanoa (U) . . . . .	1,966	Whiteville . . . . .	4,195
Swansboro . . . . .	1,207	Wilkesboro . . . . .	1,974
Swan Station . . . . .	196	Williamston . . . . .	6,570
Sylva . . . . .	1,561	Wilmington . . . . .	46,169
Tabor City . . . . .	2,400	Wilson . . . . .	29,347
Tarboro . . . . .	9,425	Wilson Mills . . . . .	283
Tarheel . . . . .	87	Windsor . . . . .	2,199
Taylorsville . . . . .	1,231	Winfall . . . . .	581
Teachey's . . . . .	219	Wingate . . . . .	2,569
Thomasville . . . . .	15,230	Winston-Salem . . . . .	132,913
Toast (U) . . . . .	2,635	Winterville . . . . .	1,437
Todd . . . . .	98	Winton . . . . .	917
Topsail Beach . . . . .	41	Woodland . . . . .	744
Trenton . . . . .	539	Woodville . . . . .	253
Trent Woods . . . . .	719	Wrightsville	
Troutman . . . . .	797	Beach . . . . .	1,701
Troy . . . . .	2,429	Yadkinville (U) . . . . .	2,232
Tryon . . . . .	1,951	Yanceyville (U) . . . . .	1,274
Turkey . . . . .	329	Yaupon Beach . . . . .	334
Valdese . . . . .	3,182	Youngsville . . . . .	555
Vanceboro . . . . .	758	Zebulon . . . . .	1,839
Vandemere . . . . .	379		
Vass . . . . .	885		
Waco . . . . .	245		
Wade . . . . .	315		
Wadesboro . . . . .	3,977		
Wagram . . . . .	718		
Wake Forest . . . . .	3,148		
Walkertown (U) . . . . .	1,652		
Wallace . . . . .	2,905		
Walnut Cove . . . . .	1,213		
Walstonburg . . . . .	176		
Warrensville . . . . .	224		
Warrenton . . . . .	1,035		
Warsaw . . . . .	2,701		
Washington . . . . .	8,961		
Washington Park . . . . .	517		



INDEX OF MATHEMATICAL CONCEPTS

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Counting.....1,31

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37,39,40,42

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Reading a census table.....3,14,15,18,19,27,28,29,35,40

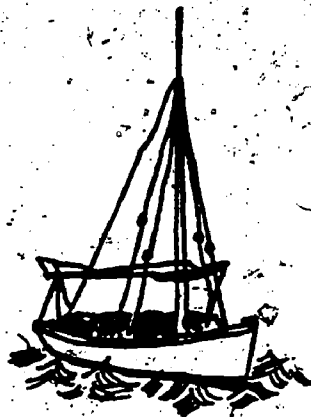
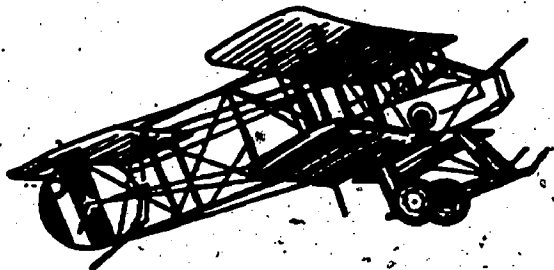
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INDEX OF MAP READING SKILLS

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Using cardinal and intermediate directions.....9

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Using the legend.....1,3,4,7,14



## Answer Key For Roadmapping Through the Land of Mathematics

Page 1.

1. 13
2.  $84\frac{1}{2}$
3. US 129
4. 20
5. 4
6. Answers will vary
7.  $17\frac{7}{8}$  miles
8. 11
9. Small circle

Page 2.

1. US 29-A
2. Northeast on US 29-A, 70-A, or NC 6
3. Buffalo Lake, Lake Hamilton, Lake Euphemia, Philadelphia Lake
4. East on US 17 to NC 132 and then south on NC 132 to campus which will be on the left.
5. West on US 17 through Wilmington and battleship will be on the right after crossing the Cape Fear River.
6. South on US 21 to Trade Street, turn left on Trade Street and continue straight until it becomes Randolph Road. The Mint Museum of Art will be on the right.

Page 3.

1. I-85 and I-40
2. I-26 and I-77
3. a. Bodie Island - Manchese  
b. Cape Hatteras - Buxton  
c. Cape Lookout -arkers Island  
d. Cape Fear - Southport or Caswell Beach
4. Lake Norman
5. Postell; Sunset Beach; Rodanthe
6. 52,712
7. 5,082,059
8.  $36^\circ$
9.  $78^\circ$

Page 4.

The exercises on this page should lead to a lively class discussion. This is especially true of part B since several of the items are relatively open-ended and have more than one acceptable answer.

- A.
1. Goldsboro
  2. Raleigh
  3. Gastonia
  4. Greensboro
  5. Fayetteville
  6. Hickory
  7. Charlotte
  8. Lumberton
  9. Wilmington
  10. Asheville
- B.
1. Bentonville Battlefield and Cliffs of the Neuse State Park
  2. Mount Mitchell State Park, Linville Caverns, Crabtree Meadow, and Craggy Meadows
  3. Fontana Lake
  4. Kerr Reservoir and Lake Gaston
  5. White Lake, Jones Lake State Park and Lake Waccamaw
  6. Gaddy's Goose Refuge, Lake Tillery, Bodin Lake, and Morrow Mountain State Park
  7. Hanging Rock State Park and Pilot Mountain State Park
  8. Alamance Battleground and N. C. Zoological Park and Gardens
  9. Historic Edenton
  10. Fort Raleigh National Monument, Outer Banks, Bodie Island Lighthouse, and Pamlico Sound

Page 5.

1. Eden
2. Durham
3. Wilmington
4. Albemarle
5. Edenton

6. Shelby
7. Eden
8. Durham
9. Winston-Salem

Page 6.

1. Greensboro
2. Statesville
3. Wilson
4. Asheboro
5. Gastonia

6. Goldsboro
7. Sanford
8. Charlotte
9. Greenville
10. Asheville

Page 7. State Parks

1. Mount Jefferson
2. Stone Mountain
3. Pilot Mountain
4. Hanging Rock
5. Boones Cave
6. Morrow Mountain

7. Raven Rock
8. Jones Lake
9. Cliffs of the Neuse
10. Masonboro
11. Duke Power

National Parks

1. Kill Devil Hills and Wright Brothers National Memorial
2. Cone Memorial Park
3. Vance Birthplace, Craggy Gardens, and Mount Mitchell
4. Looking Glass Falls and Cradle of Forestry
5. Tryon Palace
6. Fort Macon State Park and State Port
7. Fort Fisher and Masonboro State Park

Page 8.

- |        |        |         |         |
|--------|--------|---------|---------|
| 1. 68  | 5. 326 | 9. 74   | 13. 142 |
| 2. 205 | 6. 93  | 10. 167 | 14. 449 |
| 3. 121 | 7. 443 | 11. 386 | 15. 170 |
| 4. 105 | 8. 242 | 12. 280 | 16. 140 |

Page 9.

In determining the distances for the answer key we tried to consistently use the mileage through the towns on the route between the origin and destination. As a result of this your students may have trouble obtaining the same distances we did. We would recommend that you allow a tolerance of about five miles for the mileage answers.

- |        |        |         |         |
|--------|--------|---------|---------|
| 1. 123 | 5. 80  | 9. 68   | 13. 140 |
| 2. 100 | 6. 104 | 10. 83  | 14. 145 |
| 3. 106 | 7. 113 | 11. 85  | 15. 129 |
| 4. 81  | 8. 80  | 12. 132 |         |

Page 10.

1. US 17, NC 24, and NC 50
2. I-85, US 29, US 52, US 70, US 64, and NC 8
3. US 421 and US 21
4. NC 73, NC 109, and NC 731
5. US 13, US 701, NC 50, and NC 55
6. NC 904 and NC 905
7. NC 111, NC 241, NC 24 and NC 41
8. NC 18, NC 181, NC 126, US 64, US 70 and I-40

9. NC 134, NC 109, NC 24, and NC 27
10. US 64, US 23, US 441, and NC 28
11. NC 222 and US 264
12. NC 49, NC 62, NC 87, US 70, and I-85
13. US 258, NC 305, and NC 561
14. US 1, US 220, and US 74

Page 11. We hope that your students will particularly enjoy working the last three exercises as the answers are probably not what they would expect to find on a mathematics assignment.

1. Chesnee, South Carolina; 58
2. Gilkey; 68
3. Polkville; 79
4. Caribton; 108
5. Plymouth; 106
6. Stuart, Virginia; 115
7. Brinkleyville; 117
8. The water; 213
9. On Mount Mitchell
10. Oriental

Pages 12-13. In compiling these distances we included the mileage through the towns on the route between the origin and destination. Consequently, your students may not obtain the same distances we did. You will find that the larger the towns the highway passes through the greater will be the margin of error. We would recommend that you allow a reasonable tolerance for the answers.

A logical follow-up to this assignment would be to ask the students if there are routes which are longer but may require less time to drive than shortest route. Then have them discuss why.

1. A. 164; B. 143; C. 153, thus B is closest.
2. A. 155; B. 169; C. 149, thus C is closest.
3. A. 114; B. 112; C. 110, thus C is closest.
4. A. 117; B. 90; C. 95, thus B is closest.
5. A. 208; B. 200; C. 223, thus B is closest.
6. A. 181; B. 174; C. 204, thus B is closest.

- Page 14. A.
1. Wilmington
  2. Hickory
  3. Kannapolis
  4. Greenville
  5. Greensboro
- B.
1. 65; 49; 16
  2. 84; 78; 6
  3. 54; 46; 8
  4. 74; 72; 2
  5. 229; 75; 154
- C.
1. 1/2 hour or 30 minutes
  2. 7/10 hour or 42 minutes
  3. 2/10 hour or 12 minutes

- Page 15.
1. 3,182; three thousand one hundred eighty two
  2. 1,431; one thousand four hundred thirty one
  3. 95,438; ninety five thousand four hundred thirty eight
  4. 2,569; two thousand five hundred sixty nine
  5. 2,011; two thousand eleven
  6. 144,076; one hundred forty four thousand seventy six
  7. 14,660; fourteen thousand six hundred sixty
  8. 16,961; sixteen thousand nine hundred sixty one
  9. 121,577; one hundred twenty one thousand five hundred seventy seven
  10. 20,569; twenty thousand five hundred sixty nine
  11. 241,178; two hundred forty one thousand one hundred seventy eight
  12. 13,636; thirteen thousand six hundred thirty six
  13. 6,103; six thousand one hundred three
  14. 35,930; thirty five thousand nine hundred thirty
  15. 132,913; one hundred thirty two thousand nine hundred thirteen

- Page 16.
- |            |             |
|------------|-------------|
| 1. 2,164   | 13. 27,549  |
| 2. 316     | 14. 3,604   |
| 3. 14,658  | 15. 3,565   |
| 4. 12,350  | 16. 14,159  |
| 5. 22,499  | 17. 14,958  |
| 6. 183,497 | 18. 24,089  |
| 7. 4,788   | 19. 1,101   |
| 8. 7,606   | 20. 205,248 |
| 9. 1,668   | 21. 94,841  |
| 10. 6,819  | 22. 34,170  |
| 11. 2,153  | 23. 3,164   |
| 12. 6,729  |             |

- Page 17.
- |            |             |
|------------|-------------|
| 1. 11,300  | 14. 55,821  |
| 2. 16,760  | 15. 11,587  |
| 3. 57,489  | 16. 35,390  |
| 4. 95,203  | 17. 2,808   |
| 5. 142,443 | 18. 6,947   |
| 6. 3,534   | 19. 20,439  |
| 7. 16,301  | 20. 45,796  |
| 8. 794     | 21. 29,108  |
| 9. 6,298   | 22. 132,815 |
| 10. 21,424 | 23. 241,036 |
| 11. 13,378 | 24. 9,438   |
| 12. 16,312 | 25. 14,816  |
| 13. 4,774  |             |

- Page 18.
- Group 1. Askewville, Aurora, Andrews, Ayden, Ahoskie, Archdale
  - Group 2. Dillsboro, Crossnore, Grover, Badin, Burgaw, Elon College, Fairmont
  - Group 3. Seven Springs, Saluda, Knightdale, Roseboro, Nashville, Norwood, Liberty, North Wilkesboro, Garner
  - Group 4. Laurel Park, Jefferson, Lillington, Ramseur, Andrews, Walkertown, Murphy, Canton, Mount Airy, Boone, Cherry Point, Concord

- Page 19. Group 1. Waynesville, Whiteville, Stanleyville, Yadkinville, Winterville, Weaverville, Yanceyville, Taylorsville, Stoneville, Younsville, Woodville, Warrensville
- Group 2. Chapel Hill, Benson, Mars Hill, Rose Hill, Snow Hill, Biscoe, Laurel Hill, Roper, Pink Hill, Micro, Bath

- Page 20.
- |                   |                      |                    |
|-------------------|----------------------|--------------------|
| 1. Dellview       | 8. Dundarrach        | 15. Culberson      |
| 2. Chadwick Acres | 9. Parkersburg       | 16. Tar Heel       |
| 3. Mortimer       | 10. Guilford College | 17. Margaretsville |
| 4. Palmyra        | 11. Marietta         | 18. Todd           |
| 5. Council        | 12. South Creek      | 19. Beargrass      |
| 6. Love Valley    | 13. Ocean Isle Beach |                    |
| 7. Topsail Beach  | 14. McDonald         |                    |

- Page 21.
- |                  |                 |                  |
|------------------|-----------------|------------------|
| 1. Charlotte     | 8. Fayetteville | 14. Camp Lejeune |
| 2. Greensboro    | 9. Gastonia     | 15. Rockv Mount  |
| 3. Winston-Salem | 10. Fort Bragg  | 16. Wilson       |
| 4. Raleigh       | 11. Wilmington  | 17. Greenville   |
| 5. Durham        | 12. Kannapolis  | 18. Goldsboro    |
| 6. High Point    | 13. Burlington  | 19. Chapel Hill  |
| 7. Asheville     |                 | 20. Salisbury    |

- Pages 22-23.
- |          |            |
|----------|------------|
| 1. 432   | 4. 159,934 |
| 2. 4,937 | 5. 61      |
| 3. 3,961 | 6. 35,548  |

- Page 24.
- |                     |         |
|---------------------|---------|
| 1. A. Pinetops      | 1,379   |
| Saratoga            | 391     |
| Roper               | 649     |
| Macclesfield        | 536     |
| Oriental            | 445     |
| Tarboro             | 9,425   |
| B. 2,138            |         |
| 2. A. Winston-Salem | 132,913 |
| High Point          | 63,204  |
| Wingate             | 2,569   |
| Monroe              | 11,282  |
| Charlotte           | 241,178 |
| Statesville         | 19,996  |
| B. 78,524           |         |

- Pages 25-26.
- |                  |        |
|------------------|--------|
| 3. A. Boger City | 2,203  |
| Shelby           | 16,328 |
| Boiling Springs  | 2,284  |
| Todd             | 98     |
| Swannanoa        | 1,966  |
| Catawba          | 565    |
| B. 3907          |        |



- 4. A. East Spencer 2,217  
Pittsboro 1,447  
Mayodan 2,875  
New London 285  
Spencer 3,075  
Badin 1,626
- B. 1,921
- C. Will vary (about 41)
- D. Will vary (about the same)

Page 27. Rounding to Tens

- |           |  |
|-----------|--|
| 1. 5,230  | 11. 90   |
| 2. 360    | 12. 210  |
| 3. 120    | 13. 2,260  |
| 4. 6,440  | 14. 4,910  |
| 5. 1,360  | 15. 30   |
| 6. 300    | 16. 3,360  |
| 7. 8,960  | 17. 600  |
| 8. 200    | 18. 40   |
| 9. 920    | 19. 121,580  |
| 10. 1,360 | 20. 200 or 210 depending upon method used for rounding |

Rounding to Hundreds

- |           |           |            |
|-----------|-----------|------------|
| 1. 16,300 | 8. 1,400  | 15. 3,500  |
| 2. 800    | 9. 47,000 | 16. 18,500 |
| 3. 300    | 10. 1,100 | 17. 5,300  |
| 4. 300    | 11. 8,800 | 18. 13,500 |
| 5. 200    | 12. 1,400 | 19. 900    |
| 6. 300    | 13. 1,400 | 20. 1,400  |
| 7. 400    | 14. 500   |            |

Page 28.

- |            |            |             |
|------------|------------|-------------|
| 1. 54,000  | 8. 15,000  | 15. 27,000  |
| 2. 1,000   | 9. 47,000  | 16. 3,000   |
| 3. 241,000 | 10. 16,000 | 17. 14,000  |
| 4. 11,000  | 11. 29,000 | 18. 144,000 |
| 5. 23,000  | 12. 21,000 | 19. 14,000  |
| 6. 34,000  | 13. 22,000 | 20. 5,000   |
| 7. 95,000  | 14. 7,000  |             |

Page 29.

- |                              |                            |
|------------------------------|----------------------------|
| 1. 3,850; 3,800; 4,000       | 11. 1,000; 1,000; 1,000    |
| 2. 13,640; 13,600; 14,000    | 12. 34,550; 34,500; 35,000 |
| 3. 1240; 1200; 1000          | 13. 2,020; 2,000; 2,000    |
| 4. 25,540; 25,500; 26,000    | 14. 1,040; 1,000; 1,000    |
| 5. 4,630; 4,600; 5,000       | 15. 900; 900; 1,000        |
| 6. 60; 100; 0                | 16. 46,170; 46,200; 46,000 |
| 7. 940; 900; 1,000           | 17. 10,800; 10,800; 11,000 |
| 8. 132,910; 132,900; 133,000 | 18. 6,570; 6,600; 7,000    |
| 9. 9,420; 9,400; 9,000       | 19. 57,680; 57,700; 58,000 |
| 10. 14,660; 14,700; 15,000   | 20. 20,000; 20,000; 20,000 |



- Page 30.
- |    |          |     |    |
|----|----------|-----|----|
| 1. | 4        | 6.  | 10 |
| 2. | 2½       | 7.  | 16 |
| 3. | 2        | 8.  | 4  |
| 4. | 4        | 9.  | 1½ |
| 5. | 16 times | 10. | 23 |

Page 31. Since North Carolina has 100 counties the solutions to many of the exercises on this page are easy. A word of caution on exercise 13 is: since some counties border two states, you cannot add the answers to exercises 1, 4, 7 and 10 and then subtract this sum from 100%. If you did this it would result in some counties being counted more than once.

- |    |         |     |           |
|----|---------|-----|-----------|
| 1. | 10%     | 8.  | 1,019,831 |
| 2. | 170,172 | 9.  | 20.1%     |
| 3. | 3.3%    | 10. | 4%        |
| 4. | 15%     | 11. | 58,891    |
| 5. | 370,027 | 12. | 1.2%      |
| 6. | 7.3%    | 13. | 59%       |
| 7. | 15%     |     |           |

- Page 32.
- |    |          |     |          |
|----|----------|-----|----------|
| 1. | \$89.96  | 6.  | \$243.36 |
| 2. | \$140.92 | 7.  | \$ 80.21 |
| 3. | \$225.29 | 8.  | \$146.25 |
| 4. | \$121.16 | 9.  | \$ 92.43 |
| 5. | \$112.84 | 10. | \$189.67 |

- Page 33.
- |    |          |     |          |
|----|----------|-----|----------|
| 1. | \$187.50 | 6.  | \$150.00 |
| 2. | \$112.50 | 7.  | \$337.50 |
| 3. | \$262.50 | 8.  | \$225.00 |
| 4. | \$450.00 | 9.  | \$375.00 |
| 5. | \$412.50 | 10. | \$562.50 |

- Page 34.
- |    |                          |     |                        |
|----|--------------------------|-----|------------------------|
| 1. | Fuquay-Varina or Raleigh | 6.  | Hoffman                |
| 2. | Lexington                | 7.  | Wilmington             |
| 3. | Morganton                | 8.  | Asheville or Monroe    |
| 4. | Greenville               | 9.  | Asheboro or Greensboro |
| 5. | Chinquapin               | 10. | Raleigh                |

- Page 35.
- |    |                               |     |       |
|----|-------------------------------|-----|-------|
| 1. | Mecklenburg; Tyrrell; 350,850 | 6.  | 17%   |
| 2. | Surry                         | 7.  | 20%   |
| 3. | 1,467                         | 8.  | 2.4%  |
| 4. | 7,653                         | 9.  | 25.9% |
| 5. | 5,246                         | 10. | 9%    |

- Page 36.
1. Both on islands
  2. Both on or near interstate highways
  3. Both near military bases
  4. Both near State parks
  5. Both near game refuges
  6. Both on U.S. 17 and both are on rivers which empty into the Atlantic Ocean
  7. Both on large lakes

8. Rodanthe is the eastern-most town whereas Postell is the western-most
9. Both in Brunswick County on U.S. 17
10. Both on U.S. 64

- Page 37:
1. 200%
  2. 412
  3. \$30,139.34
  4. a. \$689,780.10                      b. \$22.68; \$51,651.78                      c. 4,905
  5. a. \$4,935.00                              b. \$740.25
  6. 10,283
  7. 3,631

- Page 38.
1. a. 423.1                      b. 1,957.2                      c. 834.3  
b is 1,000 miles too much. Probably due to an error in reading the odometer
  2. a. 614.1                      b. 742.4                      c. 1742.1  
c is 1,000 miles less than it should be. Probably due to an error in reading the odometer.
  3. a. 207.1                      b. 514.5                      c. 533.6  
b is 1,000 miles less than it should be. Probably due to an error in reading the odometer.
  4. a. 304.0                      b. 1,247.5                      c. 1,098.0  
b is 1,000 miles too much. Probably due to an error in reading the odometer.
  5. a. 612.2                      b. 2,805.3                      c. 1,761.8  
c is 1,000 miles too much.
  6. a. 372.0                      b. 756.9                      c. 1,394.7  
c is 1,000 miles too much.
  7. a. 892.0                      b. 1,316.1                      c. 892.1  
b is 1,000 miles too much.

Page 39. The purpose of this assignment is to illustrate to your students that the mathematics needed to work with the Metric System of Measurement is the same as that required to work with our presently adopted system of measurement.

1. a. 520 kilometers    2. a. 2,976  
b. 31,848 kilometers    b. \$372.00  
c. 80 kilometers per hour    c. \$3.00  
d. 12 1/3 hours or 12 hrs. 20 min.
3. a. 300 km  
b. 150  
c. 315 km  
d. 756; 189  
e. 62.72 kopecks



Page 40. The first four exercises are open-ended in that almost any estimates can be acceptable.

- 1 - 4. Answers will vary.
5. 105 miles; 2 hours 6 minutes; \$3.42
6. 112 miles; 2 hours 14 minutes; \$8.67
7. 203 miles; 4 hours 4 minutes; \$6.60
8. 194 miles; 3 hours 53 minutes; \$6.36

Page 42. Answers will vary.