Unit 4 Study Guide

1) Can you measure distances on a map and convert them to miles using a map scale?
    a. Math journal pages
        - p. 103
    b. Study Link
        - 4.3
    c. SRB pages
        - p. 211
        - p. 386 & 387
    d. Pages from Study Guide Packet
        - 4.3: "Estimating Curved Path Distances"
        - 4.3: "A Trip Through the Panama Canal"

2) Can you use friendly parts to divide a number mentally?
    a. Math Journal Pages
        - p. 99
    b. Study Link
        - 4.1

3) Can you solve division problems and check them using multiplication?
    a. Math Journal pages
        - p. 101
        - p. 106 - 107
    b. Study Link
        - 4.2
        - 4.4
    c. SRB pages
        - p. 22
    d. Games
        - Try playing *Division Dash* (see the math website for how to make Everyday Math cards out of a regular playing deck.)

4) Can you use magnitude estimates to divide decimals?
    a. Math Journal Pages
        - p. 109
    b. Study Link
        - 4.

5) Can you write open number sentences, solve division number stories and interpret the remainders?
    a. Math journal pages
        - p. 111 - 112
    b. Study Link
        - 4.6
    c. SRB pages
        - p. 242 - 243

6) Can you solve for a variable?
      a. Study Link
           - 4.7
      b. Games
          - Play *"Algebra Election"*
              - Math Journal Pages 118 – 119. (There are extra printable maps and cards under "games" on our website. You will use the same cards as *First to 100.*
          - Play *"First to 100"*
              - SRB p. 308 (There are extra printable cards and record sheets under "games" on our website.)

7) Can you solve division problems using the traditional method?
   a) Use your notes and the packets from class to review
      b) Have a parent or sibling make up practice problems for you

LESSON 4·3 | # Estimating Curved-Path Distances

Use a ruler, string, compass, paper and pencil, or any other tool.

1. The map below shows the border between Mexico and
   the United States. Estimate the length of the border.   mi

CALIF.

ARIZONA   NEW MEXICO

TEXAS

MEXICO

0   200 miles

1 inch
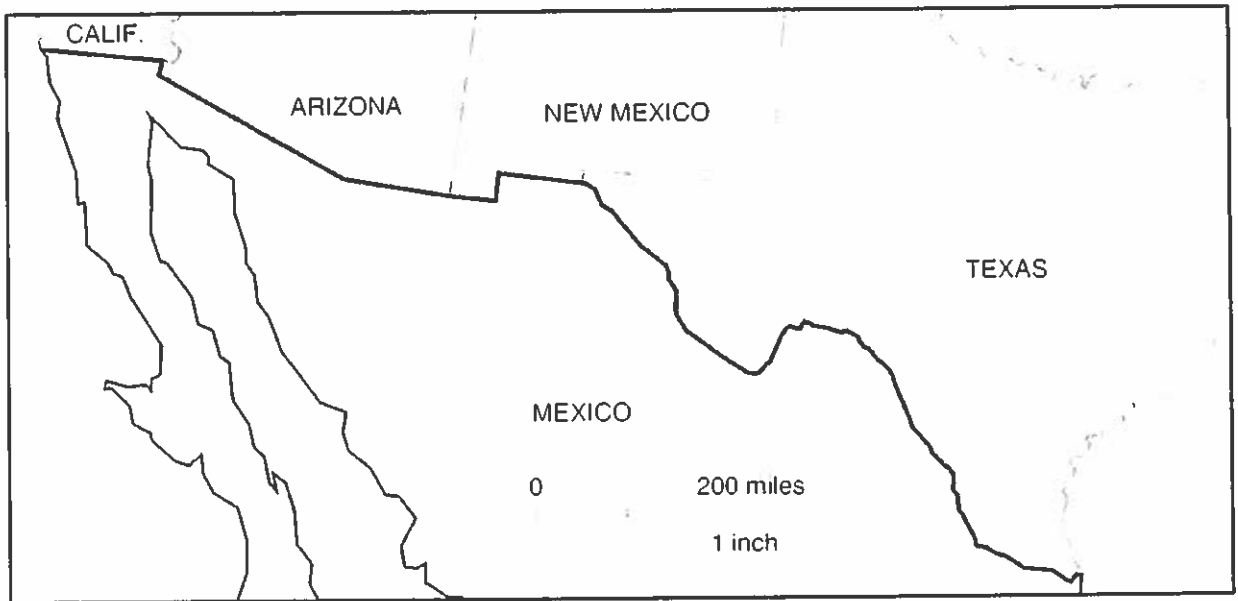
2. a. Estimate the lengths of the following rivers. Use the map
      on pages 386 and 387 of the *Student Reference Book*.

River	Length (miles)
Arkansas (CO, KS, OK, and AR)	
Missouri (MT, ND, SD, NE, IA, KS, and MO)	
Brazos (NM and TX)	
Chattahoochee (GA, AL, FL)	

   b. Explain how you found the length of the Chattahoochee River.
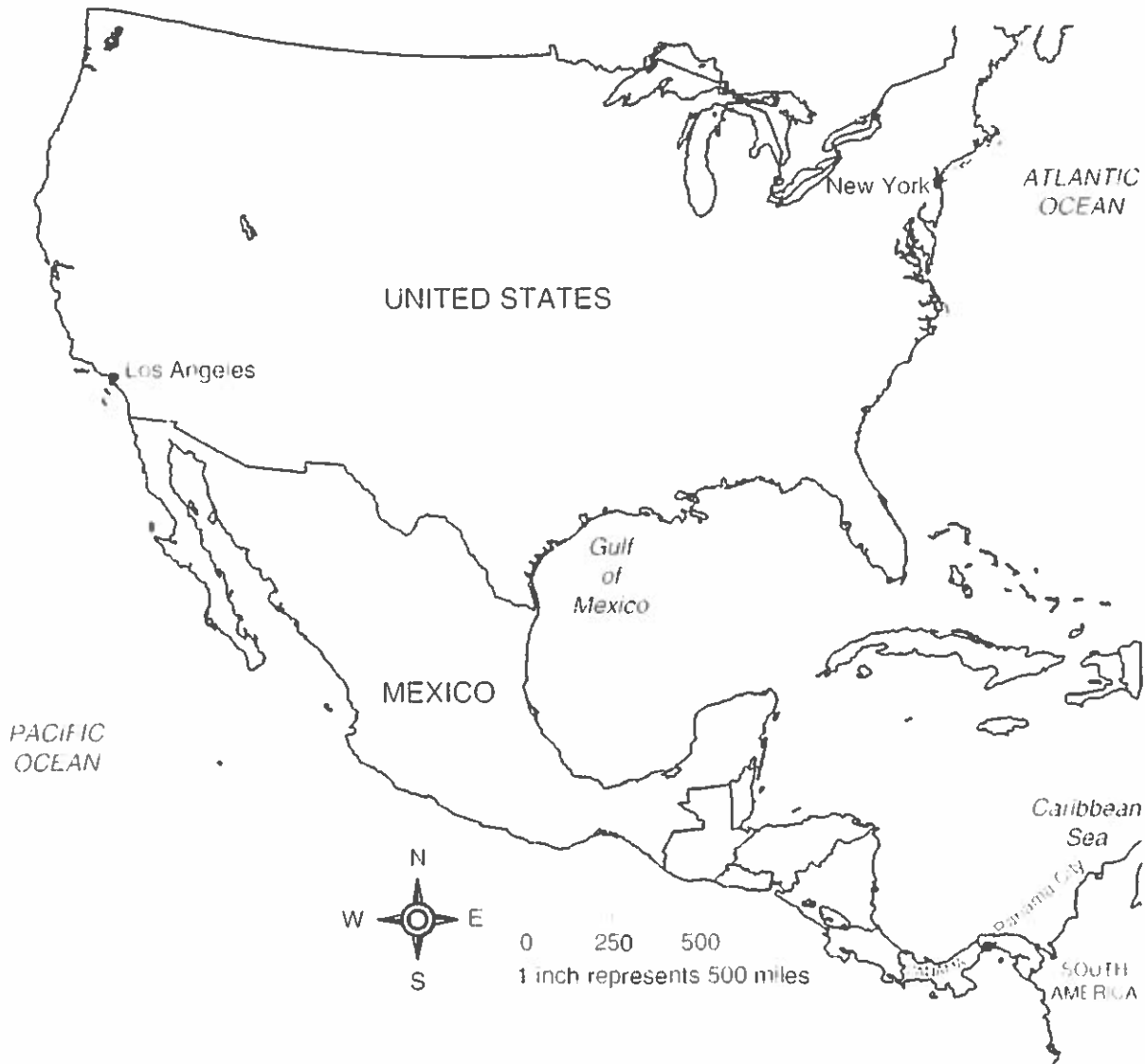
LESSON 4·3 A Trip through the Panama Canal

The Panama Canal crosses the country of Panama near its capital city, Panama City. The canal connects the Atlantic Ocean and the Pacific Ocean.

Pretend that you will travel by ship from New York, through the Panama Canal, to Los Angeles.

1. Use the map below to decide on a route your ship will take. Then use a pencil to draw this route on the map.

2. Estimate the length of the route you have chosen. Use a ruler, string, compass, paper and pencil, or any other tool. _____ mi

3. How much longer is your route than the straight-line distance from New York to Los Angeles? _____ mi

UNITED STATES

New York

ATLANTIC OCEAN

Los Angeles

Gulf of Mexico

MEXICO

PACIFIC OCEAN

Caribbean Sea

N W E S

0   250   500
1 inch represents 500 miles

SOUTH AMERICA

Solving Number Stories with 2-Digit Divisors

1. Paul baked 91 cupcakes. He wants
   to divide them evenly among 13 bake
   sale tables. How many cupcakes should
   he put on each table?

   Number model with unknown:

   _____

   Answer: _____ cupcakes

   How many cupcakes will be left over?

   _____ cupcakes

   Summary number model:

   _____

2. The library has boxes to store
   432 videotapes. Each box
   holds 18 tapes. How many
   boxes will be completely filled?

   Number model with unknown:

   _____

   Answer: _____ boxes

   How many videotapes will be left over?

   _____ videotapes

   Summary number model:

   _____

Solving Number Stories with 2-Digit Divisors

1. Each homeroom has 22 students. There are 462 students in all. How many homerooms are there?

   Number model with unknown: _____

   Answer: _____

   Summary number model: _____

2. Each box has 33 books. There are 1,221 books in all. How many boxes are there?

   Number model with unknown: _____

   Answer: _____

   Summary number model: _____

3. The Morris family drove 4,224 miles in 22 days. How many miles did they drive per day?

   _____ miles

   Explain how you found your answer. _____

   _____

   _____

   _____

Using the ~~Partial-Quotients~~ Traditional Algorithm with 2-Digit Divisors

Divide.

1. 18) 864   Answer: _____

2. 481 ÷ 37 = _____

3. 864 / 24 = _____

4. 3,312 ÷ 36 = _____

5. 525 / 25 = _____

6. 4,992 ÷ 16 = _____

Interpreting the Remainder with 2-Digit Divisors

1. Solve.

   $952 \div 28 =$ _____

2. Solve.

   $935 \div 11 =$ _____

3. If you read 12 pages per day of a 160-page book, how many days will it take to read the entire book?

   Number model: _____

   Answer: _____ days

   What did you do with the remainder?

   _____

   _____

4. You can ride your bike 16 miles in an hour. If you want to ride 200 miles, how long will it take?

   Number model: _____

   Answer: _____ hours

   What did you do with the remainder?

   _____

   _____

5. Malik created 275 centerpieces for a school breakfast. He put the centerpieces in baskets. Each basket holds 15 centerpieces. How many baskets did he need?

   Number model: _____   Answer: _____ baskets

   What did you do with the remainder? _____

   _____

S2

Interpreting the Remainder with 4-Digit Dividends

Use the **traditional** ~~partial quotients~~ algorithm to solve these problems.

1. A family went to the beach on vacation. They stayed at the
   beach for 3,629 minutes. How many whole hours is that? _____

   Explain your strategy for interpreting the remainder.

   _____

   _____

2. Sarah collected 1,117 different leaves for a project.
   She made a collection of books with 25 leaves in
   each book. How many complete books did she make? _____

   Explain your strategy for interpreting the remainder.

   _____

   _____

3. There are 3,517 students at Metro High School. If there are
   31 students per class, how many classrooms are needed? _____

   Explain your strategy for interpreting the remainder.

   _____

   _____

4. The baseball cap factory can make 54 caps per day.
   They need 5,359 caps to hand out at the first day game.
   How many days will it take to make the caps they need? _____

   Explain your strategy for interpreting the remainder.

   _____

   _____

5. Sam spent 1,577 hours at school in one calendar year.
   About how many whole hours per month is that? _____

   Explain your strategy for interpreting the remainder.

   _____

   _____

Dividing Decimals by 1-Digit Divisors

1. Divide. $7\overline{)182}$ Answer: _____	**2.** Divide. **a.** $78 \div 6 =$ _____ **b.** $810 / 5 =$ _____
3. Estimate the quotient, and then find the exact answer. Use the estimate to place the decimal point correctly. Number model: _____ $4.62 \div 6 =$ _____	**4.** Estimate the quotient, and then find the exact answer. Use the estimate to place the decimal point correctly. Number model: _____ $1.64 \div 4 =$ _____
5. Janet walked 11.25 miles in 3 hours. On average, how many miles did she walk per hour? _____ miles	**6.** Explain how you found the answer in Problem 5.

Making Magnitude Estimates

For each problem:

◆ Make a magnitude estimate of the quotient. Ask yourself: *Is the answer in the tenths, ones, tens, or hundreds?*

◆ Circle a box to show the magnitude of your estimate.

◆ Write a number sentence to show how you estimated.

◆ Use your magnitude estimate to place the decimal point in the final answer.

◆ Check that your final answer is reasonable.

Example: 4)85.6

0.1s	1s	10s	100s

How I estimated: $80 \div 4 = 20$

Answer: 21.4

1. 4)9.52

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

2. $18.76 ÷ 7

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

3. 7.854 ÷ 6

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

4. 560.1 / 30

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

5. 3,840 / 6

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

Making Magnitude Estimates

1. In the number 3.875, the 5 means _____ . the 3 means _____ . the 8 means _____ . the 7 means _____ .	**2.** In the numeral 2,168,347.95, the 3 is worth _____ .
3. Make a magnitude estimate and circle the appropriate box. Write a number sentence to show how you estimated. Then find the answer. 561.2 / 4 | 0.1s | 1s | 10s | 100s | How I estimated: _____ Answer: _____	**4.** Make a magnitude estimate and circle the appropriate box. Write a number sentence to show how you estimated. Then find the answer. 2.48 ÷ 8 | 0.1s | 1s | 10s | 100s | How I estimated: _____ Answer: _____
5. Solve. $7\overline{)64.61}$ Estimate: _____ Answer: _____	**6.** Explain how you made your magnitude estimate for Problem 5.

Making Magnitude Estimates

Make a magnitude estimate and circle the appropriate box.
Write a number sentence to show how you estimated.
Then find the answer.

1. $6 \overline{) 24.6}$

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

2. 648.5/5

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

3. $110.6 \div 7$

0.1s	1s	10s	100s

How I estimated: _____

Answer: _____

Practice Set 23

Use mental math to solve. Remember to break the number
being divided into two or more friendly parts.

Example	**Friendly parts:**	**Divide each part.**
66 divided by 5	50 and 16	$50 \div 5 = 10$
		$16 \div 5 = 3$ with 1 left over
		66 divided by 5 equals **13 with 1 left over.**

1. 71 divided by 3 _____   _____

2. 47 divided by 6 _____   _____

3. 87 divided by 8 _____   _____

4. 69 divided by 4 _____   _____

5. 95 divided by 7 _____   _____

6. 86 divided by 6 _____   _____

Tell how many. Then write a number model.

7. How many dots are in this array? _____

```
. . . . . . . .
. . . . . . . .
. . . . . . . .    Number model: _____
. . . . . . . .
```

8. How many dots are in this array? _____

```
. . . .
. . . .
. . . .    Number model: _____
. . . .
. . . .
```

Complete.

9. $10^4 =$ _____

10. $5^{\square} = 25$

11. $10,000,000 = 10^{\lfloor \; \rfloor}$

12. $3^{\lceil \; \rceil} = 27$

13. $64 = 4^{\square}$

14. _____ $^4 = 81$

Practice Set 23 *continued*

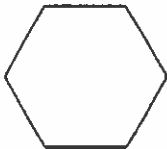Write the value of the digit 8 In the numerals below.

15. 589,000 _____

16. 87,402,000,000 _____ _____

17. 312,719,538 _____
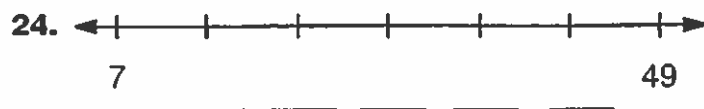
18. 482,391,092 _____ _____

19. 328,946,326 _____

---

20. Name the polygon shown below. _____

21. If each side were 6.9 centimeters, what would the perimeter be? _____

Complete the number lines.

22.

4.5 ___ ___ ___ ___ ___ ___ 5.2

23.

−8 −6 ___ ___ ___ 2

24.

7 ___ ___ ___ ___ ___ 49

25.

3 ___ ___ 123

Practice Set 24

COMPUTATION PRACTICE **Divide.**

1. $\frac{518}{5}$ = _____ _____ _____

2. $183 \div 6$ = _____ _____ _____

3. $464 \div 4$ = _____ _____ _____

4. $\frac{630}{8}$ = _____ _____ _____ _____

5. $\frac{967}{9}$ = _____ _____ _____

6. $\frac{1,344}{12}$ = _____ _____ _____ _____

7. $6,568 \div 8$ = _____ _____ _____

8. $3,068 \div 23$ = _____ _____ _____ _____

9. Ellen had 293 buttons. She places 6 buttons in each bag.
   How many bags of buttons can she make?

   _____ _____

Tell whether each number is *even* or *odd*. Then list all of the factors.

10. 49 _____ _____ _____

11. 58 _____ _____ _____

12. 62 _____ _____ _____

13. 81 _____ _____ _____

14. 76 _____ _____ _____

15. 95 _____ _____ _____

Write the amounts.

16. | $1 | | $1 | | $1 | Q D D D N P P   _____

17. | $5 | | $1 | | $1 | Q Q Q N N   _____

18. | $100 | | $20 | | $20 | | $5 | | $1 | | $1 | | $1 | _____

Solve. If 1 in. represents 100 ml on a map, then

19. 2 in. represents _____ _____ _____ mi.

20. 3 in. represents _____ _____ _____ mi.

21. 10 in. represents _____ _____ mi.

22. $\frac{3}{4}$ in. represents _____ _____ _____ mi.

Use with or after Lesson 4·2.

Practice Set 25

Use the map and map scale to answer the questions.

West Entrance   Highway 61   East Entrance

Campground

Hiking Trail

Beach

Lake

```
|---█████---|--------|
0           1        2 miles
```
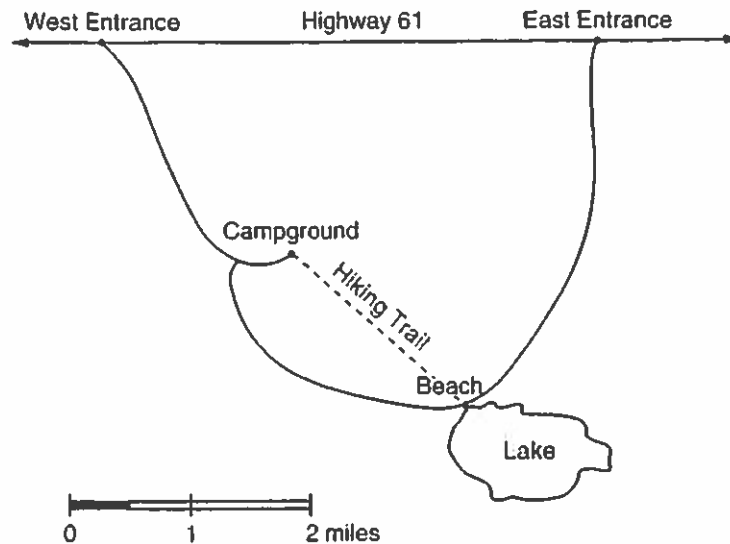
1. How far is it from the east entrance to the lake? _____ . _____

2. Which is closer to the beach, the east or west entrance?

   _____ - _____

3. Which entrance is closer to the campground? By how many miles?

   _____ - __

4. Sue and Jason want to go from the campground to the beach.
   If Sue rides her bike on the road at 5 miles per hour, and Jason
   walks on the trail at 3 miles per hour, who will reach the beach first?

   __ - - __ _____

5. If there was a trail around the lake, estimate how long
   this trail would be.

   _____

6. **Writing/Reasoning** If you wanted to hike about 4 miles,
   describe a route you might take.

   __ ___ ___ _____ - _____

   _____

     53

Practice Set 25 continued

Write the numbers in order from *least* to *greatest*.

7. 1.79, 0.12, 5.1, 0.4, 4.03 _____

8. 9.8, 0.98, 8.09, 8.9, 0.89 _____

9. 0.2, 2.2, 0.12, 1.2, 0.21 _____

Estimate the answer to each multiplication problem.

10. 185 * 22 = _____ **11.** 92 * 41 = _____

12. 781 * 68 = _____ **13.** 209 * 71 = _____

14. 314 * 18 = _____ **15.** 903 * 47 = _____

Solve.

16. 900 * 800 = p _____ **17.** 5,000 * d = 300,000 _____

18. 5,400 x * 90 _____ **19.** 42,000 = 700 * s _____

20. 3 * 1,500 = n _____ **21.** $\frac{64,000}{8,000}$ = g _____

Solve.

22. A mole can dig a tunnel 300 feet long in one night. How many yards can a mole dig in three weeks? (Reminder: 3 ft = 1 yd)

23. A bottle-nosed dolphin can dive to a depth of 3,000 feet in 2 minutes. About how many yards per second is that?

24. When it snows, Shawn charges $4 for every sidewalk he shovels, and $5 for every driveway he shovels. If he shovels 8 sidewalks and 3 driveways, how much does he earn?

Use with or after Lesson 4·3.

Practice Set 26

Make a magnitude estimate of the quotient. Is the solution in the
tenths, ones, tens, or *hundreds?* Then find the exact answer.

1. 18.9 ÷ 7 _____   _____

2. 297 ÷ 5 _____   _____

3. 61.6 / 4 _____

4. 25.2 / 6 _____   _____

5. $40.43 ÷ 3 ___   _____

6. 786 / 6 _____   _____

COMPUTATION PRACTICE Solve.

7. 623 + 812 = _____

8. 170 − 68 = _____

9. 495 − 381 = _____

10. 2,791 + 342 = ___   _____

11. 3,465 + 1,273 = _____

12. 7,514 − 2,356 = _____   _____

Write a number sentence. Then find the solution.

13. There are 17 cards in each box. There are 9 boxes
on the shelf. How many cards are on the shelf?

_____   _____

14. The library is open 6 days a week. Each day, an
average of 430 books are checked out. What is the
average total number of books that are checked out
in a week?

_____   _____

15. Karen bought a jacket for $42.59 and a pair of slacks
for $23.65. How much did she spend in all?

_____   _____

16. Writing/Reasoning Explain how you found the answer
to Problem 14.

_____   _____   _____

_____   _____   _____

_____   _____   _____

Practice Set 27

Writing/Reasoning Write a number sentence, and then solve.
Explain what the remainder represents.

1. 437 students need calculators. Calculators come in boxes of 12. How many boxes of calculators need to be ordered so that each student will have a calculator?

_____

_____

2. Ms. Woods has 27 feet of fabric. She needs to make 4 identical costumes. How much fabric does she have for each costume?

_____

_____

3. Oscar is making fruit baskets. Each fruit basket must have 15 pieces of fruit. How many baskets can he make with 123 pieces of fruit?

_____

_____

Rewrite the number sentences with parentheses to make them correct.

4. $42 * 8 - 5 = 126$

_____

5. $9.5 = 6.3 + \frac{6.4}{2}$

_____

6. $260 - 240 - 6 = 26$

_____

7. $10 - 12 + 9 = -11$

_____

8. $8 * 6 + 9 * 5 = 600$

_____

9. $170 = 20 * 4 + 90$

_____

10. $7 * 4 + 10 * 13 = 158$

_____

11. $115.8 = 11.6 * 3 + 9 * 9$

_____

Use with or after Lesson 4·5.

Practice Set 27 *continued*

SRB
28 29
204

Measure each angle to the nearest degree.

12.
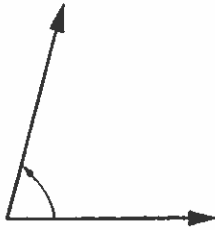
13.

_____   _____
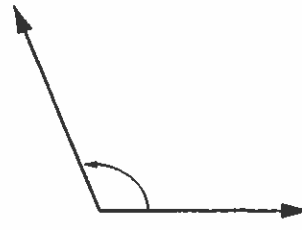
Use digits to write the following numbers.

14. one hundred sixty-two and nine hundred seventy-four thousandths

____ _____ _____ _____

15. sixteen and one hundred forty-seven thousandths

_____ _____

16. one thousand and forty-two thousandths

____ _____ _____

17. sixteen and four hundred seven thousandths

_____ _____ ___

Use words to write the following numbers.

18. 171.603 _____ _____ _____

19. 34.087 _____ _____ _____

20. 1.042 _____ _____

21. 71.627 _____ _____ _____

Practice Set 28

For each number story, write a number sentence and solve the problem. Circle what you did with the remainder and explain why.

1. Eight people went to lunch. The bill came to $98.00. If they split the bill equally among them, how much did each person pay?

   Number sentence: _____ . _____

   Answer: ____ . _____

   Circle what you did about the remainder.

   Ignored it   Reported it as a fraction or a decimal   Rounded the answer up

   Why? _____   _____

2. Rose collected 74 eggs from the chickens on her farm. She wants to place a dozen eggs in each carton. How many cartons will she need?

   Number sentence: ___   _____

   Answer: _____

   Circle what you did about the remainder.

   Ignored it   Reported it as a fraction or a decimal   Rounded the answer up

   Why? ___   _____   _____

3. Andy has $57.00. He wants to buy 6 CDs for $9.00 each, including tax. Does he have enough money?

   Number sentence: _____   _____

   Answer: _____

   Circle what you did about the remainder.

   Ignored it   Reported it as a fraction or a decimal   Rounded the answer up

   Why? _____   _____   _____   ____

Use with or after Lesson 4·6.