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# Mid-Year Review

## Test Prep

### Multiple Choice

**Fill in the circle next to the correct answer.**

**1.** Which of the following is 3,450,026 in word form? *(Lesson 1.1)*

(A) Three million, four hundred fifty thousand, twenty-six

(B) Three million, four hundred thousand fifty, twenty-six

(C) Three million, fifty thousand four hundred, twenty-six

(D) Three million, forty-five thousand, twenty-six

**2.** Which number is the greatest? *(Lesson 1.3)*

(A) 15,265 (B) 93,216

(C) 320,182 (D) 320,128

**3.** Which number when rounded to the nearest thousand is 23,000? *(Lesson 1.4)*

(A) 22,097 (B) 22,499

(C) 23,400 (D) 23,501

**4.** Simplify $20 + 10 \times 19 - 7$. *(Lesson 2.6)*

(A) 140 (B) 203

(C) 360 (D) 563

**5.** Which is 1,000 less than the product of 3,021 and 79? *(Lesson 2.3)*

(A) 2,100 (B) 4,100

(C) 237,659 (D) 239,659

**6.** Which is the difference between the value of the digit 6 in 2,300,628 and in 846,150? *(Lesson 1.2)*

(A) 600 (B) 5,400

(C) 5,522 (D) 6,000

**7.** Which is the remainder when 4,885 is divided by 21? *(Lesson 2.5)*

(A) 12 (B) 13

(C) 14 (D) 15

**8.** Express $\frac{8}{11} \div 4$ in simplest form. *(Lesson 4.6)*

$\frac{8}{11} \times \frac{1}{4} = \frac{8}{44} = \frac{2}{11}$

(A) $\frac{2}{11}$ (B) $\frac{8}{44}$

(C) $\frac{1}{11}$ (D) $\frac{4}{11}$

**9.** Find the difference: $\frac{3}{4} - \frac{3}{8}$. *(Lesson 3.2)*

$\frac{6}{8} - \frac{3}{8} = \frac{3}{8}$

(A) $\frac{5}{8}$ (B) $\frac{3}{8}$

(C) $\frac{1}{2}$ (D) $\frac{1}{4}$

**10.** Find the product: $\frac{3}{4} \times \frac{8}{12}$. *(Lesson 4.1)*

$\frac{\cancel{3}}{\cancel{4}_1} \times \frac{\cancel{8}^{2}}{\cancel{12}_4} = \frac{2}{4} = \frac{1}{2}$

(A) $\frac{1}{2}$ (B) $\frac{2}{3}$

(C) $\frac{5}{12}$ (D) $\frac{11}{16}$

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**11.** Estimate the sum of $\frac{6}{7}$ and $\frac{3}{5}$. *(Lesson 3.1)*

(A) 0 (B) $\frac{1}{2}$

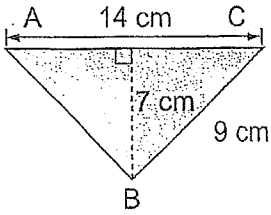
(C) $1\frac{1}{2}$ (D) 1

**12.** What is the difference between $3\frac{1}{2}$ and $1\frac{1}{4}$ ? *(Lesson 3.6)*

(A) $2\frac{1}{4}$ (B) $3\frac{1}{4}$

(C) $4\frac{3}{4}$ (D) $4\frac{1}{2}$

**13.** Find the area of triangle *ABC*. *(Lesson 6.2)*




(A) 126 cm$^2$

(B) 98 cm$^2$

(C) 63 cm$^2$

(D) 49 cm$^2$

**14.** Simplify $4x + 6 - 2x - 1$. *(Lesson 5.2)*

(A) $6x + 7$ (B) $4x + 3$

(C) $8x + 6$ (D) $2x + 5$

**15.** For what value of $y$ will the inequality $3y + 4 < 8$ be true? *(Lesson 5.3 )*

(A) $y = 1$ (B) $y = 2$

(C) $y = 3$ (D) $y = 4$

**16.** Glass A contains 236 milliliters of milk. Glass B contains 420 milliliters of milk. What is the ratio of the amount of milk in Glass A to that in Glass B? *(Lesson 7.3)*

(A) 89 : 135 (B) 119 : 165

(C) 479 : 660 (D) 59 : 105

## Short Answer

**Read the questions carefully. Write your answers in the space provided. Show your work.**

**17.** What is the missing number in the box? *(Lesson 1.2)*

$87{,}412 = 80{,}000 + \square + 400 + 10 + 2$

7,000

**18.** Order the numbers from greatest to least. *(Lesson 1.3)*

35,928 164,239 35,982 916,236

916,236 164,239 35,982 35,928

**19.** Rounding to the nearest thousand, what is the least number that rounds to 32,000? *(Lesson 1.4)*

31,500

**20.** Find the product of 238 and 4,000. *(Lesson 2.2)*

952,000

**21.** There are 215 Grade 5 students in Cherrywood school. Each student spends $17 on a dictionary. How much in all do the students spend on the dictionary? *(Lesson 2.7)*

215 × $17 =

$3,655

**22.** Mr. Hull is buying computer equipment for his company. The equipment costs $45,900. He pays $5,300 for the first payment. He then pays the rest of the amount in equal payments for 14 months. Find the amount he has to pay each month. *(Lesson 2.7)*

$45,900 − $5,300 = $40,600

$40,600 ÷ 14 = $2,900

$2,900

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**23.** Simplify $(2 + 4) \times 7 - 6 + 11$. *(Lesson 2.6)*

$(2+4) \times 7 - 6 + 11 = 6 \times 7 - 6 + 11$

$= 42 - 6 + 11$

$= 36 + 11$

$= 47$

47

**24.** Express $38 \div 6$ as a fraction in simplest from. Then rewrite the fraction as a mixed number. *(Lesson 3.3)*

$38 \div 6 = \frac{38}{6}$

$= \frac{19}{3}$

$= 6\frac{1}{3}$

$\frac{19}{3}, 6\frac{1}{3}$

**25.** Shaun has $24\frac{1}{2}$ ounces of beads. He has $3\frac{3}{8}$ ounces of beads less than Tony. Find the weight of Tony's beads. *(Lesson 3.7)*

$24\frac{1}{2} + 3\frac{3}{8} = 27\frac{7}{8}$

$27\frac{7}{8}$ ounces

**26.** Express $24\frac{1}{4} - 15\frac{1}{2}$ as a decimal. *(Lessons 3.3 and 3.6)*

$24\frac{1}{4} - 15\frac{1}{2} = 8\frac{3}{4}$

$= 8.75$

8.75

**27.** Lita jogged $7\frac{3}{10}$ kilometers on Friday. She jogged $1\frac{3}{4}$ kilometers more on Saturday. How many kilometers did she jog on both days? Give your answer as a decimal. *(Lesson 3.7)*

$7\frac{3}{10} + 1\frac{3}{4} = 9\frac{1}{20}$

$9\frac{1}{20} + 7\frac{3}{10} = 16\frac{7}{20}$

$= 16.35$

16.35 km

**28.** Multiply $\frac{70}{6}$ by $\frac{18}{4}$. Express the product as a mixed number in simplest form. *(Lesson 4.3)*

$\frac{70}{6} \times \frac{18}{4} = \frac{35}{1} \times \frac{3}{2}$

$= \frac{105}{2}$

$= 52\frac{1}{2}$

$52\frac{1}{2}$

**29.** Jamal runs $1\frac{2}{5}$ miles a day to train for a race.

**a.** If he runs the same distance for 3 days a week, what is the distance he runs in one week?

**b.** If he keeps to this training regime for 8 weeks, what is the total distance he will run in 8 weeks ? *(Lesson 4.5)*

$1\frac{2}{5} \times 3 = \frac{7}{5} \times 3 = \frac{21}{5} = 4\frac{1}{5}$

$4\frac{1}{5} \times 8 = \frac{21}{5} \times 8 = \frac{168}{5} = 33\frac{3}{5}$

a. $4\frac{1}{5}$ miles

b. $33\frac{3}{5}$ miles

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**30.** A ball of string $\frac{9}{10}$ meter long is cut into 3 pieces of the same length.

Find the length of each piece. *(Lesson 4.6)*

$\frac{9}{10} \div 3 = \frac{9}{10} \times \frac{1}{3}$

$= \frac{3}{10}$

$\frac{3}{10}$ m

**31.** 3 batteries cost \$5$r$ and 8 folders cost \$2$r$. Jason bought 6 batteries and 4 folders. How much does he pay? Give your answer in terms of $r$. *(Lesson 5.4)*

$5r \times 2 = 10r$

$2r \div 2 = r$

$10r + r = 11r$

\$11r

**32.** Solve this equation. *(Lesson 5.3)*

$4a - 8 = a + 4$

$4a - 8 = a + 4$

$4a - 8 + 8 = a + 4 + 8$

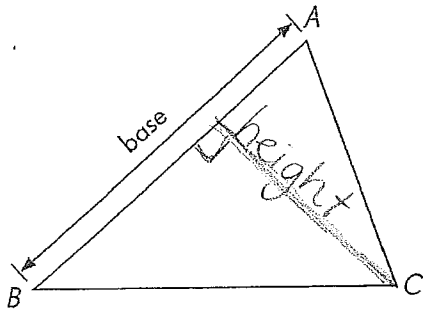
$4a = a + 12$

$4a - a = a + 12 - a$

$3a = 12$ $a = 4$

$a = 4$

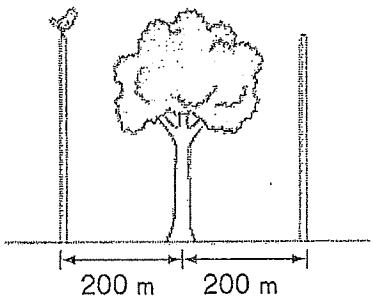
**33.** The base of the triangle $ABC$ is as given. Label its height . *(Lesson 6.1)*



## Extended Response

**Solve. Show your work.**

**40.** Poles are placed an equal distance apart along a 6-kilometer road. There is a tree in between every two poles. The figure shows the distance between a tree and two poles. Poles are placed at the start and end of the road. How many poles are there? *(Lesson 2.4)*




1 km = 1,000 m
6 km = 6,000 m
6,000 ÷ 400 = 15
There are 15 trees altogether.
15 + 1 = 16
There are 16 poles.

**41.** A whole number when divided by 4 gives a remainder of 3. The same whole number when divided by 6 gives a remainder of 1. The number is between 70 and 85. What is the number? *(Lesson 2.5)*

| No. Between 70 and 85 | ÷ 4 | ÷ 6 |
|---|---|---|
| 75 | 18 R 3 | 12 R 3 ✗ |
| 79 | 19 R 3 | 13 R 1 ✓ |

The number is 79.

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**42.** Sarah earns $525 more than Andrew each month. They each spend $1,250 a month and save the rest. Sarah does not have any savings at first. After 11 months, she has $8,250 in savings. How much does Andrew earn in a year? *(Lesson 2.7)*

$8,250 ÷ 11 = $750

$750 + $1,250 = $2,000

$2,000 − $525 = $1,475

Andrew earns $1,475 each month.

12 × $1,475 = $17,700

He earns $17,700 in a year.

**43.** Ivan caught a total of $7\frac{2}{5}$ pounds of fish one day. Of the fish caught, $4\frac{5}{8}$ pounds were sea bass and the rest were mackerel. He gave away $1\frac{7}{8}$ pounds of mackerel. How many pounds of mackerel did he have left? Give your answer as a decimal. *(Lesson 3.7)*

$7\frac{2}{5} - 4\frac{5}{8} = 2\frac{31}{40}$

$2\frac{31}{40}$ pounds of the fish were mackerel.

$2\frac{31}{40} - 1\frac{7}{8} = \frac{36}{40}$

$= \frac{9}{10}$

$= 0.9$

He had 0.9 pounds of mackerel left.

**44.** There were $2\frac{4}{5}$ quarts of milk in Container A and some milk in Container B. Lisa poured $1\frac{2}{5}$ quarts of milk each into Container A and Container B. In the end, the total volume of milk in the two containers was 10 quarts. How many quarts of milk were in Container B at first? Give your answer as a decimal. *(Lesson 3.7)*

$2\frac{4}{5} + 1\frac{2}{5} = 3\frac{6}{5} = 4\frac{1}{5}$

There were $4\frac{1}{5}$ qts. of milk in Container A in the end.

$10 - 4\frac{1}{5} = 5\frac{4}{5}$

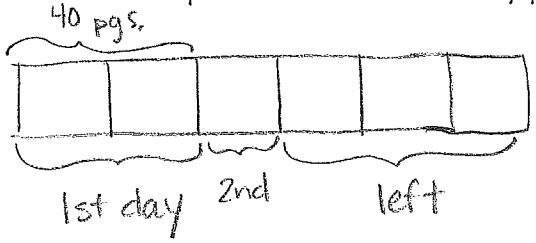
There were $5\frac{4}{5}$ qts. of milk in Container B in the end.

$5\frac{4}{5} - 1\frac{2}{5} = 4\frac{2}{5} = 4.4$

There were 4.4 qts. of milk in Container B at first.



**45.** Tyrone read a book for his school project. On the first day, he read 40 pages. On the second day, he read $\frac{1}{4}$ of the remaining pages. After the second day, he still had to read $\frac{1}{2}$ of the total number of pages to complete the book. How many pages are in the book? *(Lesson 4.2)*




2 units → 40 pages
1 unit → 20 pages
6 units → 120 pages

There are 120 pages in the book.

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**46.** A dealership has $9y$ cars, $12y$ trucks and 18 vans. *(Lesson 5.4)*

**a.** $4y$ cars, $3y$ trucks and 15 vans are sold. Find the total number of vehicles remaining in terms of $y$.

$9y - 4y = 5y$

$12y - 3y = 9y$

$18 - 15 = 3$

$5y + 9y + 3 = 14y + 3$

The total remaining is $14y + 3$

**b.** If the value of $y$ is 7, are there more trucks or more cars and vans at first?

Trucks

$12 \times 7 = 84$

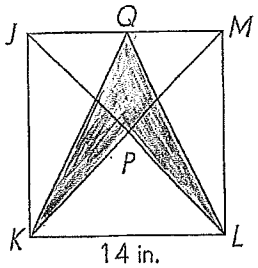
$84 > 81$

Cars and vans:

$(9 \times 7) + 18 = 81$

There are more trucks at first.

**47.** The side of square $JKLM$ is 14 inches. $KP = MP = JP = LP$. Find the total area of the shaded parts. *(Lesson 6.2)*




Area of $\triangle KLQ = \frac{1}{2} \times 14 \times 14$

$= 98 \text{ in}^2$

Area of $\triangle KLP = \frac{1}{4} \times 14 \times 14$

$= 49 \text{ in}^2$

Total of shaded parts $= 98 - 49 = 49$

The total area of shaded parts is $49 \text{ in}^2$.

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# End-of-Year Review

## Test Prep

### Multiple Choice

**Shade the circle next to the correct answer.**

**1.** In 130.426, the digit 2 is in the _____ place. *(Lesson 8.1)*

(A) tens
(B) tenths
(C) hundredths
(D) thousandths

**2.** Use front-end estimation with adjustment to estimate 6,189 − 3,674. *(Lesson 1.4)*

(A) 1,000
(B) 2,000
(C) 3,000
(D) 4,000

**3.** Simplify 48 ÷ 8 + 13 × 3. *(Lesson 2.6)*

(A) 45
(B) 54
(C) 57
(D) 75

**4.** Express $10\frac{1}{4} - 4\frac{1}{2}$ as a decimal. *(Lesson 3.3)*

(A) 6.25
(B) 5.75
(C) 5.43
(D) 5.34

**5.** Express 9.062 as a mixed number in simplest form. *(Lesson 8.3)*

(A) $9\frac{62}{100}$
(B) $9\frac{31}{50}$
(C) $9\frac{62}{1000}$
(D) $9\frac{31}{500}$

**6.** What is the product of 96 and 13? *(Lesson 2.3)*

(A) 900
(B) 960
(C) 1,170
(D) 1,248

**7.** Divide 84 by 400. *(Lesson 9.4)*

(A) 0.21 (B) 0.84
(C) 2.1 (D) 8.4

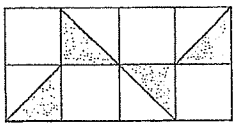
**8.** Simplify $16p + 5 - 3p - 2$. *(Lesson 5.2)*

(A) $19p + 7$ (B) $19p - 3$
(C) $13p + 3$ (D) $13p - 3$

**9.** For what value of $y$ will the inequality $4y - 8 > 10$ be true? *(Lesson 5.3)*

(A) 2 (B) 3
(C) 4 (D) 5

**10.** What percent of the figure is shaded? *(Lesson 10.1)*



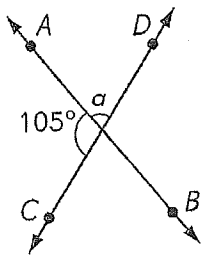
(A) 25% (B) 35%
(C) 40% (D) 50%

**11.** The price of a cell phone is $500. Kathleen pays 8% sales tax on the price of the cell phone. How much sales tax does she pay? *(Lesson 10.4)*

(A) $400 (B) $50
(C) $40 (D) $8

**12.** $\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are lines. Find the measure of $\angle a$. *(Lesson 12.1)*

(A) 180°
(B) 105°
(C) 75°
(D) 57°



4A

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# Cumulative Review for Chapters 5

## Concepts and Skills

**Complete. Use the data in the table.** *(Lesson 5.1)*

The ages of four cousins are shown.

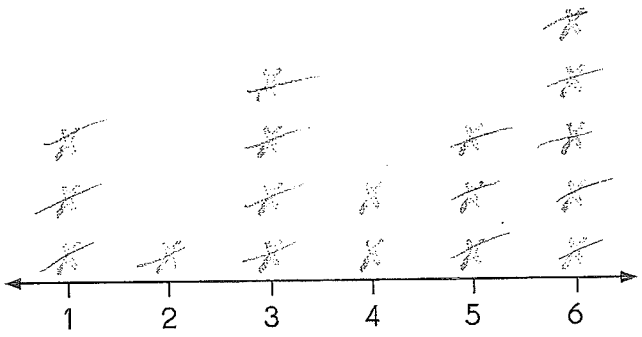
8, 12, 10, 6

**1.** The sum of their ages is 36 years.

**2.** The mean age of the cousins is 9 years.

**Answer each question. Use the data in the line plot.** *(Lesson 5.2)*

A group of hikers made a line plot to show the number of mountains they climbed. Each ✕ represents one hiker.




**Number of Mountains Climbed**

**3.** What is the median number of mountains climbed? 4 (middle)

**4.** What is the range of the set of data? 5 (difference high - low)

**5.** What is the mode of the set of data? 6 (most often)

4B

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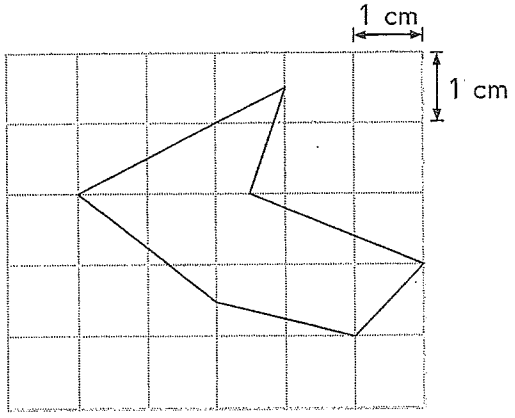
# Cumulative Review for Chapters 12 to 14

## Concepts and Skills

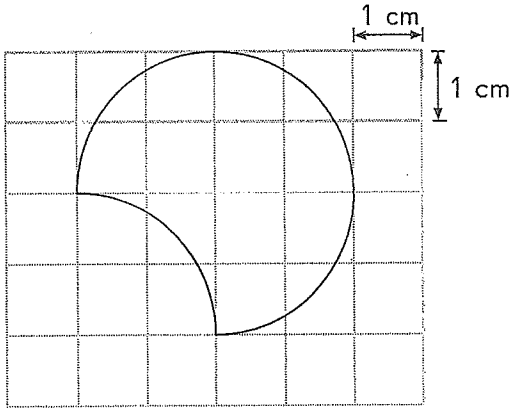
**Estimate the area of each figure.** *(Lesson 12.1)*

**1.**




7 - 8 $cm^2$

**2.**




10 - 11 $cm^2$

**Solve. Show your work.** *(Lesson 12.2)*

**3.** The perimeter of a rectangle is 54 feet. Its length is 14 feet. Find its width.

Length + width = 54 ÷ 2
= 27 ft.

14 + width = 27 ft.
width = 27 − 14
= 13 ft.

The width of the rectangle is 13 feet.

**4.** The area of a rectangle is 65 square inches. Its width is 5 inches. Find its length.

Length × width = area of rectangle
Length × 5 = 65 $in^2$
Length = 65 ÷ 5
= 13 in.

The length of the rectangle is 13 inches.

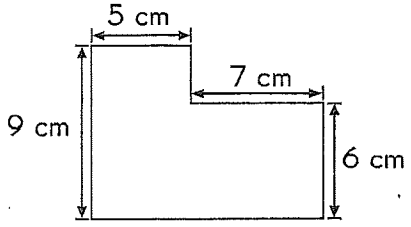




## Problem Solving

**Solve. Show your work.** *(Lessons 12.3 and 12.4)*

**20.** This figure is made up of rectangles. Find its perimeter and area.




P = 9 + 5 + 7 + 6 + 12 + 3
= 42 cm
P = 42 cm

A = 7 × 6 + 9 × 5
= 42 + 45
= 87 $cm^2$

**Solve. Show your work.**

**21.** A rectangle is divided into 3 identical squares as shown.
The area of the rectangle is 147 square yards. Find the length and width.


Area of 3 sq. = 147 $yd^2$

Area of 1 sq. = 147 ÷ 3 = 49 $yd^2$

Side × side = area of 1 sq.

Side = 49 ÷ 7 = 7 yd.

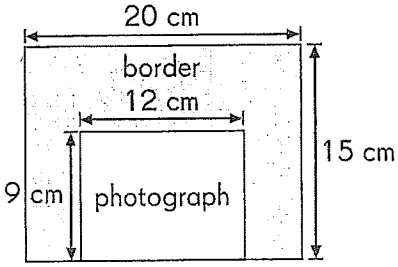
Width = 7 yds.

Length = 3 × width = 3 × 7 = 21 yd.

The length of the rectangle is 21 yards, and the width is 7 yds.

**22.** A photograph measuring 12 centimeters by 9 centimeters is mounted on a rectangular piece of cardboard measuring 20 centimeters by 15 centimeters as shown.
Find

**a.** the area of the border.




Area of cardboard = 20 × 15 = 300 $cm^2$

Area of photograph = 12 × 9 = 108 $cm^2$

Area of border = 300 − 108
= 192 $cm^2$

The area of the border is 192 $cm^2$.

**b.** the perimeter of the border.

P = 15 + 20 + 15 + 4 + 9 + 12 + 9 + 4
= 88 cm

The perimeter of the border is 88 cm.

5B

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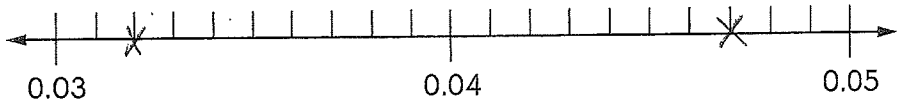
# Cumulative Review for Chapters 8

## Concepts and Skills

**Mark ✗ to show where each decimal is located on the number line.** *(Lesson 8.1)*

**1.** 0.032 **2.** 0.047




**Complete.** *(Lesson 8.1)*

**3.** 3 tenths 5 hundredths = 350 thousandths

**4.** 803 thousandths = 8 tenths 3 thousandths

**5.** 0.835 = 8 tenths 3 hundredths 5 thousandths

**Write the equivalent decimal.** *(Lesson 8.1)*

**6.** 8 ones and 214 thousandths = 8.214

**7.** 1,180 thousandths = 1.180

**8.** $7\frac{60}{1000}$ = 7.060

**9.** $\frac{6050}{1000}$ = 6.050

**4.526 can be written in expanded form as 4 + 0.5 + 0.02 + 0.006. Write each decimal in expanded notation.** *(Lesson 8.1)*

**10.** 0.329 = 0.3 + 0.02 + 0.009

**11.** 20.125 = 20 + 0.1 + 0.02 + 0.005

**Complete.** *(Lesson 8.1)*

In 9.168,

**12.** the digit 6 is in the hundredths place.

**13.** the value of the digit 8 is 0.008.

**14.** the digit 1 stands for 1 tenth or 0.1

**Compare. Write >, <, or =.** *(Lesson 8.2)*

**15.** 1.07 (<) 1.7

**16.** 3.562 (>) 3.526

**17.** 15.4 (=) 15.40

**Order the decimals.** *(Lesson 8.2)*

**18.** 2.08, 1.973, 6.1

Begin with the least:

1.973, 2.08, 6.1

**19.** 1.567, 1.667, 1.376

Begin with the greatest:

1.667, 1.567, 1.376

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**Fill in the blanks.** *(Lesson 8.2)*

**20.** The mass of a strand of hair is 0.179 gram.

Round the mass to the nearest hundredth of a gram.

0.179 gram rounds to 0.18 gram.

**21.** The length of a rope is 2.589 yards.

Round the length to the nearest tenth of a yard.

2.589 yards rounds to 2.6 yards.

**Write each decimal as a mixed number in simplest form.** *(Lesson 8.3)*

**22.** $6.2 = 6\frac{1}{5}$

**23.** $2.16 = 2\frac{16}{100} = 2\frac{4}{25}$

**Multiply.** *(Lessons 9.1 and 9.2)*

**24.** $29.3 \times 8 = 234.4$

**25.** $12.08 \times 5 = 60.4$

**26.** $86.4 \times 10 = 864$

**27.** $13.5 \times 30 = 405$

**28.** $73.96 \times 100 = 7,396$

**29.** $6.2 \times 700 = 4,340$

**30.** $9.34 \times 1,000 = 9,340$

**31.** $25.6 \times 9,000 = 230,400$

**Divide.** *(Lesson 9.3)*

**32.** $0.5 \div 5 =$ 0.1

**33.** $0.63 \div 9 =$ 0.7

**34.** $36.8 \div 4 =$ 9.2

**35.** $96.3 \div 5 =$ 19.26

**36.** $3.36 \div 4 =$ 0.84

**37.** $1.92 \div 8 =$ 0.24



**Divide. Round the quotient to the nearest tenth and nearest hundredth.** *(Lesson 9.3)*

**38.** $19 \div 7 =$ 2.7 to the nearest tenth

$19 \div 7 =$ 2.71 to the nearest hundredth

Name: _____ Date: _____

**Divide.** *(Lesson 9.4)*

**39.** $38 \div 10 =$ 3.8

**40.** $19.6 \div 20 =$ 0.98

**41.** $4.5 \div 100 =$ 0.045

**42.** $375 \div 300 =$ 1.25

**43.** $5{,}030 \div 1{,}000 =$ 5.030

**44.** $2{,}506 \div 7{,}000 =$ 0.358



**Estimate each answer by rounding the numbers to an appropriate place.** *(Lesson 9.5)*

**45.** $91.2 + 25.9$

$91 + 26 = 117$

**46.** $37.4 - 11.7$

$37 - 12 = 25$

**47.** $21.63 \times 5$

$22 \times 5 = 110$

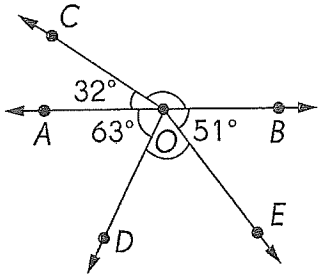
**48.** $7.05 \div 8$

$8 \div 8 = 1$

Name: _____ Date: _____

**Find the unknown angle measures.** *(Lessons 12.1 and 12.2)*

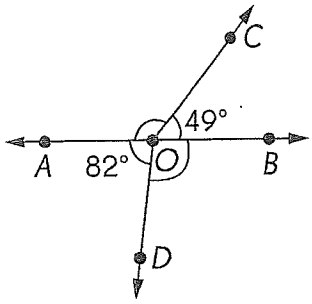
**22.** $\overleftrightarrow{AB}$ is a line.




$m\angle BOC =$ 148°

$m\angle DOE =$ 66°

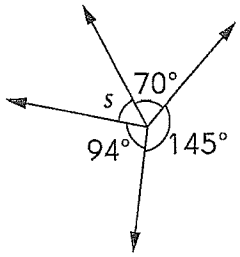
**23.** $\overleftrightarrow{AB}$ is a line.




$m\angle AOC =$ 131°

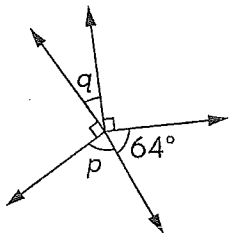
$m\angle DOB =$ 98°

**24.**



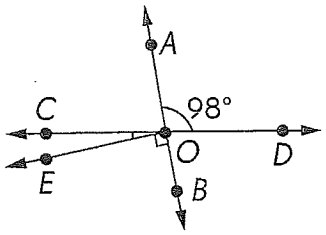

$m\angle s =$ 51°

**25.**



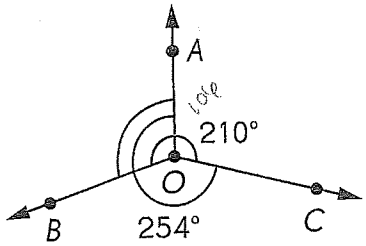

$m\angle p + m\angle q =$ 116°

**26.** $\overleftrightarrow{CD}$ is a line.




$m\angle COE =$ 8°

**27.**




360 − 254 = 106

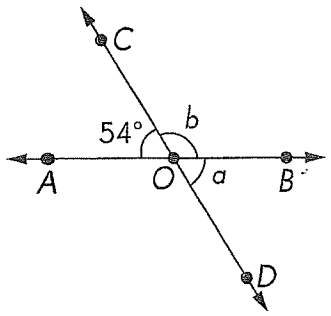
210 − 106 = 104

$m\angle AOB =$ 104°

**Find the unknown angle measures.** *(Lesson 12.3)*

$\overleftrightarrow{AB}$, $\overleftrightarrow{CD}$, and $\overleftrightarrow{EF}$ are lines.

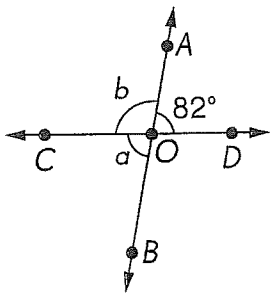
**28.**




$m\angle a =$ 54°

$m\angle b =$ 126°

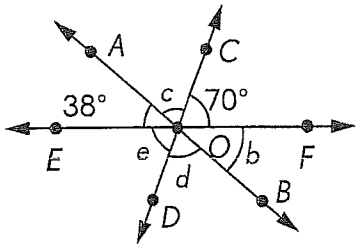
**29.**




$m\angle a =$ 82°

$m\angle b =$ 98°

**30.**




$m\angle b =$ 38°

$m\angle c =$ 72°

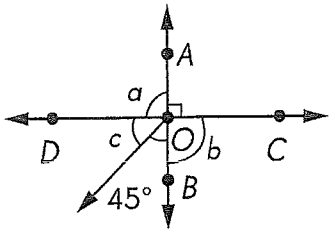
$m\angle d =$ 72°

$m\angle e =$ 70°

$m\angle b + m\angle d + m\angle e$

$=$ 180°

**31.**




$m\angle a =$ 90°

$m\angle b =$ 90°

$m\angle c =$ 45°