

# 6th → 7th Summer Math Packet



As a resource, students can use their username and login to access the online version of the Math In Focus textbook.

<http://my.hrw.com>

**The problems that say “MLC” are especially challenging. Everyone can try them, but do not worry if you have difficulty with them. Try your best on all of the problems!**

1. The greatest one day temperature change in world records occurred at Browning, Montana, from January 23- 24 in 1916. The temperature fell from  $44^{\circ}\text{F}$  to  $-56^{\circ}\text{F}$  in less than 24 hours.

What was the temperature change that day?

2. The high temperature is  $20^{\circ}\text{F}$ . The low temperature is  $-20^{\circ}\text{F}$ . What temperature is halfway between the high and the low?

3. The low temperature is  $-8^{\circ}\text{C}$ . The temperature halfway between the high and the low is  $5^{\circ}\text{C}$ . What is the only possible high temperature? Use a number line to help you.

4. The high temperature is  $-10^{\circ}\text{C}$ . The low temperature is  $-15^{\circ}\text{C}$ . What is the temperature halfway between the high and the low?

5. In a football game, one team makes seven plays in the 1<sup>st</sup> quarter. The results of those plays are (in order) gain of 7 yards, gain of 2 yards, loss of 5 yards, loss of 12 yards, gain of 16 yards, gain of 8 yards, loss of 8 yards.

What is the overall gain (or loss) from all seven plays?

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Cumulative Practice for Chapters 1 to 3

Draw a horizontal number line to represent each set of numbers.

1. Prime numbers less than 25
2. Mixed numbers between  $-6$  and  $-7$  with an interval of  $\frac{1}{5}$  between each pair of mixed numbers

Arrange the following numbers from least to greatest.

3. 13,  $-5$ ,  $-8$ , 2,  $-10$ , 6,  $-20$ , 0

\_\_\_\_\_

least greatest

Arrange the following numbers from greatest to least.

4.  $-12$ , 7, 20,  $-16$ ,  $-4$ , 25, 0,  $-30$

\_\_\_\_\_

greatest least

Complete each inequality using  $>$  or  $<$ .

5.  $-36$    $2$

6.  $7\frac{7}{8}$    $-7\frac{7}{9}$

7.  $8$    $-10$

8.  $-12$    $-25$

9.  $\sqrt[3]{216}$    $-\sqrt{81}$

10.  $3^3$    $2^4$

11.  $|-80|$    $|-100|$

12.  $|600|$    $|-700|$

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Express each number as a product of its prime factors.**

13. 56 \_\_\_\_\_

14. 180 \_\_\_\_\_

**Find the greatest common factor of each set of numbers.**

15. 36 and 42 \_\_\_\_\_

16. 24, 48, and 84 \_\_\_\_\_

**Find the least common multiple of each set of numbers.**

17. 6 and 14 \_\_\_\_\_

18. 21, 28, and 42 \_\_\_\_\_

**Find the value of each of the following.**

25.  $2\frac{2}{5} \times \frac{3}{4} =$  \_\_\_\_\_

26.  $1\frac{5}{6} \div \frac{4}{9} =$  \_\_\_\_\_

27.  $3.7 \times 2.5 =$  \_\_\_\_\_

28.  $18.5 \div 2.5 =$  \_\_\_\_\_

**Solve. Show your work.**

29. The mass of a bag of flour is 7 kg 500 g. Joyce repacks the flour into 12 small packs of equal mass. What is the mass, in kilograms, of each small pack of flour? (1 kg = 1,000 g)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

30. A chef buys  $4\frac{1}{2}$  pounds of broccoli. A casserole recipe calls for  $\frac{3}{4}$  pound of broccoli. How many casseroles can the chef prepare before she runs out of broccoli?

31. A bottle has a mass of 1.8 kilograms when it is completely filled with juice. It has a mass of 1.23 kilograms when  $\frac{3}{8}$  of the juice is removed. What is the mass of the empty bottle?

\*\*\*  
MLC

32. Paul paid \$25.50 for 3 cups of hot chocolate and 4 cups of hot tea. The cost of each cup of tea was  $\frac{2}{3}$  the cost of each cup of hot chocolate. How much did each cup of hot chocolate cost?

Name: \_\_\_\_\_

Date: \_\_\_\_\_

33. Josie spent  $\frac{4}{7}$  of the money in her purse on some books, and the rest of the money on 18 markers. Each marker cost \$1.20. How much money was in Josie's purse to begin with?

34. A cereal bar is sold individually for \$2.40 or in packs of 4 for \$8 per pack. Roxie wants to buy exactly 38 cereal bars. What is the least amount of money that Roxie can spend on cereal bars?

35. At a festival,  $\frac{2}{7}$  of the number of girls was equal to  $\frac{3}{5}$  of the number of boys. There were 165 fewer boys than girls, how many children were at the festival in all?

© Marshall Cavendish International (Singapore) Private Limited **MLC**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

36. Madison spent  $\frac{5}{8}$  of her savings on a microwave oven and a refrigerator. She used  $\frac{4}{7}$  of the amount she spent to buy the refrigerator. The refrigerator cost \$280 more than the microwave oven. How much savings did Madison start with?

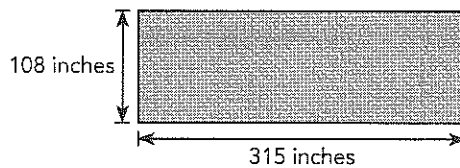
\*\*\* MLC

37. Michael and Mateo begin running around a circular track from the starting point at the same time. It takes Michael 48 seconds to complete one lap around the track. It takes Mateo 60 seconds to complete one lap around the track.
- a) How many minutes does it take before the two boys will meet at the starting point again?

- b) How many laps will each boy have run by then?

38. Jaden wants to cover a floor with square tiles of the same size. The floor measures 315 inches by 108 inches. If she uses only whole tiles, find

- a) the greatest possible length of each tile;



- b) the number of tiles needed to cover the floor.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Cumulative Practice for Chapters 4 to 7

Find the missing term in each pair of equivalent ratios.

1.  $7 : 15 = 63 : \underline{\hspace{2cm}}$

2.  $\underline{\hspace{2cm}} : 13 = 48 : 104$

Write each ratio in simplest form.

3.  $36 : 90 \underline{\hspace{2cm}}$

4.  $56 : 91 \underline{\hspace{2cm}}$

5.  $60 \text{ inches} : 3 \text{ feet}$

6.  $2 \text{ pounds} : 24 \text{ ounces}$

\_\_\_\_\_

\_\_\_\_\_

Express each decimal as a percent.

7.  $0.76 \underline{\hspace{2cm}}$

8.  $1.09 \underline{\hspace{2cm}}$

Express each fraction as a percent.

9.  $\frac{13}{20} \underline{\hspace{2cm}}$

10.  $\frac{7}{12} \underline{\hspace{2cm}}$

Express each percent as a decimal.

11.  $9\% \underline{\hspace{2cm}}$

12.  $150\% \underline{\hspace{2cm}}$

Express each percent as a fraction in simplest form.

13.  $88\% \underline{\hspace{2cm}}$

14.  $120\% \underline{\hspace{2cm}}$



Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Solve. Show your work.**

32. A car traveled a distance of 124 miles in 2.5 hours. Find the speed of the car.

33. Wyatt swims 500 yards in 5 minutes and 15 seconds. What is his swimming speed in yards per minute, to the nearest whole yard?

34. The table shows the rental fees for a concert hall.

First 2 hours	\$180 per hour
Each additional hour	\$115

What is the total rental fee if Mrs. Wu rents the concert hall for 5 hours?

35.  $\frac{2}{5}$  of Abel's books are equal to  $\frac{4}{7}$  of Bella's books. What is the ratio of Abel's books to Bella's books?  
**\*\*\* MLC**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

36. There are 84 students in the Glee Club. There are 12 more boys than girls.  
What is the ratio of the number of girls to the number of boys?

37. The table shows how much money Jake spent last week.

Expense	Entertainment	Bus fare	School supplies	Food
Amount	\$12	\$5	\$6	?

Jake spent 40% of his money on entertainment and school supplies.  
How much did he spend on food?

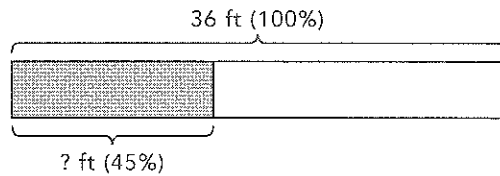
Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Lesson 6.3 Percent of a Quantity

Solve. Use the model to help you.

1. What is 45% of 36 feet?



Find the quantity represented by each percent.

2. 35% of 125 miles \_\_\_\_\_
3. 46% of 340 gallons \_\_\_\_\_
4. 65% of 180 pounds \_\_\_\_\_
5. 75% of 72 hours \_\_\_\_\_
6. 120% of \$590 \_\_\_\_\_
7. 245% of 860 kilograms \_\_\_\_\_

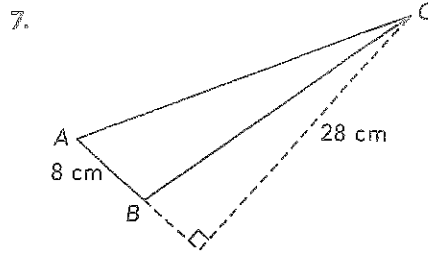
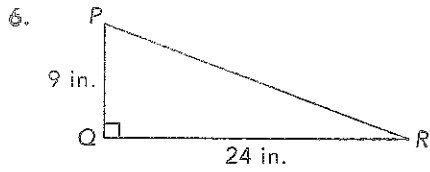
Find the missing value.

8. 18% of \_\_\_\_\_ is 99.
9. 92% of \_\_\_\_\_ is 345.
10. 55% of \_\_\_\_\_ is 143.
11. 47% of \_\_\_\_\_ is 141.
12. 125% of \_\_\_\_\_ is 85.
13. 350% of \_\_\_\_\_ is 679.

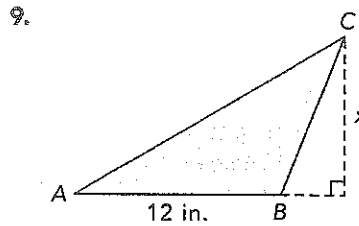
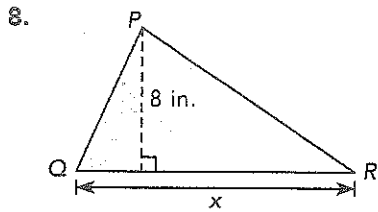
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Find the area of each triangle.

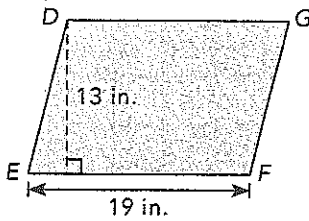


The area of each triangle is 60 square inches. Find the measure of  $x$ .

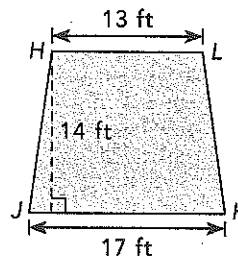


Find the area of each polygon.

10.  $DEFG$  is a parallelogram.



11.  $HJKL$  is a trapezoid.



Name: \_\_\_\_\_

Date: \_\_\_\_\_

26. Mrs. Lim is  $y$  years old. She was 25 years old when her son was born. Their total age in 12 years' time will be  $n$  years.

a) Express  $n$  in terms of  $y$ .

b) Find  $n$  when  $y = 38$ .

27. Mick and LaToya have some shirts. The ratio of the number of shirts Mick has to the number of shirts LaToya has is  $3 : 8$ . If they have a total of  $k$  shirts, how many fewer shirts does Mick have than LaToya?

28. A square tray has a side length of  $9p$  inches. The perimeter of a rectangular tray is  $\frac{1}{3}$  the perimeter of the square tray. If the width of the rectangular tray is  $\frac{1}{2}$  its length, find the width of the rectangle in terms of  $p$ .

29. The hour hand of a clock is 8 centimeters long. How far does the tip of the hour hand travel in one day? Use 3.14 as an approximation for  $\pi$ .

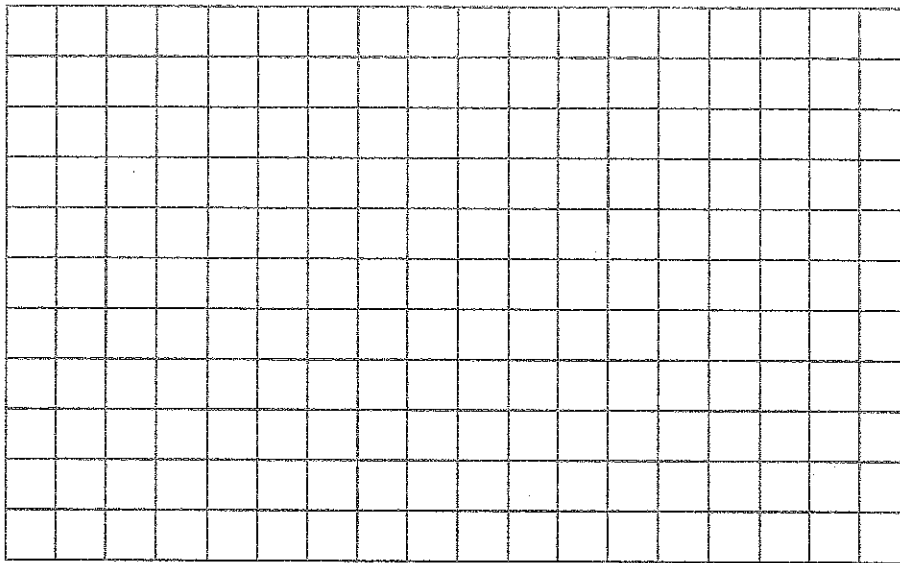
Name: \_\_\_\_\_

Date: \_\_\_\_\_

36. To print greeting cards, a company charges a flat fee of \$10 plus \$2 per card. The total cost,  $C$  dollars, for printing  $n$  greeting cards is given by  $C = 10 + 2n$ . The table shows the total cost for printing  $n$  greeting cards.

Number of Cards ( $n$ )	0	5	10	15		25
Total Cost ( $C$ dollars)	10	20			50	

- a) Complete the table.  
 b) Graph the relationship between  $n$  and  $C$ . Use 1 unit on the horizontal axis to represent 5 cards and 1 unit on the vertical axis to represent \$10.



- c) Olivia wants to print 30 greeting cards. What is her total cost?  
 d) Jaime wants to print 200 greeting cards. What is his total cost?  
 e) If Chloe has \$50, how many greeting cards can she print? Express your answer in the form of an inequality, in terms of  $x$ .  
 f) Name the dependent and independent variables.