

KEY KEY KEY KEY KEY

MODULE G
Topic: Ratios And Rates

Write the following as simplified ratios:

1. 8 to 10 2. 3.2 to 2.4 3. 6 1/2 feet to 10 inches

$\frac{4}{5}$	$\frac{4}{3}$	$\frac{39}{5}$
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4. 12 oz. to 18 oz 5. 7 dimes to 3 quarters.

$\frac{2}{3}$	$\frac{14}{15}$
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6. A basketball player made 42 of the 70 shots taken in a tournament. Write the ratio of shots made to shots taken.

$\frac{3}{5}$

Write the following as a unit rate. Round your answer to the nearest hundredth when appropriate.

7. \$10.36 for 12 ounces

\$0.86 per ounce

8. 300 miles in 5 hr 30 min

54.55 miles per hour

9. $\frac{480 \text{ mi.}}{15 \text{ gal}}$

32 miles per gal

10. $\frac{657,200 \text{ library books}}{5,200 \text{ students}}$

126.38 books per student

11. A printer produces 4 pages in 6 seconds. How many pages are produced per second?

$\frac{2}{3}$ of a page per second

12. Find the unit price: \$10.44 for 18 bottles of water

\$0.58 per bottle

13. Find the best buy for dishwashing liquid:

- a. 12 oz. for 79¢
b. 22 oz. for \$1.29

(b) is the best buy

MODULE G

Topic: Proportions

1. What is a proportion? How can you tell if something is a proportion?

A proportion is an EQUATION stating that two ratios or rates are equal.
The equation is a proportion if cross products are equal.

2. Write the following as a proportion:

15 is to 21 as 60 is to 84

$$\frac{15}{21} = \frac{60}{84}$$

7. Which of the following are proportions?

A and C are proportions

A. $\frac{2.4}{1.2} = \frac{2}{1}$

B. $\frac{9}{10} = \frac{23.8}{26}$

C. $\frac{5}{8} = \frac{75}{120}$

D. $\frac{3}{\frac{1}{5}} = \frac{30}{6}$

8. Solve each of the following:

A. $\frac{7}{12} = \frac{m}{24}$

14

B. $\frac{y}{12} = \frac{5}{0.6}$

100

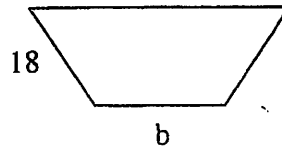
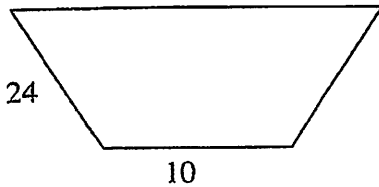
C. $\frac{x+2}{x-1} = \frac{3}{4}$

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MODULE G

Topic: Word Problems plus Review of Previous Modules

- A recipe that calls for $1\frac{1}{3}$ cups of sugar makes 24 cookies. How much sugar should be used in the recipe if you want to make 100 cookies? $5\frac{5}{9}$ cups of sugar
- John drives 300 miles in 4 hours 40 min. At this rate, how long will it take him to drive 500 miles? $7\frac{7}{9}$ hours
- The Changs purchased an \$80,000 home, and the property taxes were \$1,400. If they make improvements and the house is now valued at \$120,000, what will the new property tax be? \$2100
- A 6-lb. roast will serve 14 people. What size roast is needed to serve 21 people? 9 pounds
- Find the missing side length in the similar trapezoids below.



$b = 7.5$

Review from previous modules:

6. Evaluate: A) $\left(-\frac{3}{4} + 0.3\right)^2$
0.2025

B) $-0.2^2 - 3\left(\frac{1}{8} + \frac{3}{2}\right)$ -4.915

7. Evaluate $3a^2 - 2b$ if $a = -\frac{1}{2}$ and $b = -\frac{1}{8}$ 1

8. Translate into English phrases. Let $x =$ "a number"

A. $x^2 - 4$ Four less than the square of a number.

B. $\frac{5}{x-1}$ The quotient of 5 and one less than a number

9. Solve:

A. $\frac{1}{3}x - \frac{3}{8} = \frac{1}{6}x - \frac{3}{4}$ $-\frac{9}{4}$

B. $-3(x-9) + 2 = 3(7-x)$ No solution