

1. Refer to the advertisement given below.

Feed 15 people for \$20!	
You can, when you buy a 2-foot cold-cut party submarine sandwich.	

- a. Complete the rate table.

inches		4.8	24		1
people	2	3	15	4	

- b. If 15 people share a sandwich equally, how many inches will each person get?
 c. What is the cost per person?
 d. Explain how you figured out the cost per person.

2. Use cross multiplication to solve the proportion.

$$\frac{3}{6} = \frac{12}{s}$$

Use cross multiplication to solve the proportion.

3. $\frac{2}{6} = \frac{t}{24}$

4. $\frac{t}{9} = \frac{8}{18}$

5. Use cross multiplication to solve the proportion.

$$\frac{4}{s} = \frac{16}{32}$$

Complete the rate table. Use the table to write an open proportion. Solve the proportion. Write the answer to the problem.

6. Some species of bamboo grow at a rate of 5 inches every 8 hours. About how many hours does it take to grow 20 inches?

inches	10	5	25	20	
hours		8			1

7. Mr. Joseph rode his motorcycle 132 miles on 3 gallons of gasoline. How far can he ride on 9 gallons?

miles	1	132		
gallons		3	1	9

Write proportions to solve the problems.

8. Stephen bought 4 boxes of pencils for \$5. How many boxes of pencils can he buy with \$10?

$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

_____ boxes of pencils

9. Melinda was reading a detective story. She read 20 pages in 50 minutes. How many pages did she read in 40 minutes?

$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

_____ pages

Write proportions to solve the problems.

10. Peter missed 70% of the questions on the last science test. How many questions did he miss if there were 20 questions on the test?

$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

_____ questions

11. Nate went to bat 32 times last season. He had 16 hits. What percent of the time did he make a hit?

$$\frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}}$$

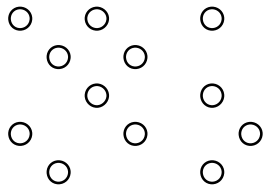
_____ %

12. The table below shows the calorie and fat content in 1 cup of two kinds of yogurt.
 a. Complete the table.

Food Label	Food	Calories from Fat	Estimated Fat Percent
		Total Calories	
Nutrition Facts Serving Size 1 cup (225 g) Serving Per Container 1 <hr/> Amount Per Serving <hr/> Calories 170 Calories from Fat 38	mango yogurt		
Nutrition Facts Serving Size 1 cup (225 g) Serving Per Container 1 <hr/> Amount Per Serving <hr/> Calories 200 Calories from Fat 43	vanilla yogurt		

b. Explain how you estimated the percent of fat for mango yogurt.

13. a. Shade $\frac{1}{2}$ of the circles below.



b. What percent of the circles is shaded?

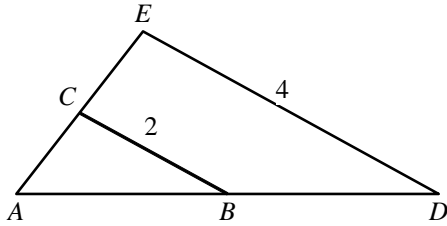
c. What is the ratio of shaded circles to unshaded circles?

d. How many more unshaded circles would you have to draw so that the ratio of shaded circles to unshaded circles would be 3 to 4?

14. Seven out of every 9 cards are number-side down. If 14 cards are number-side up, how many cards are there in all?

15. The ratio of number-side up to number-side down cards is 2 to 7. If there are 90 cards altogether, how many cards are number-side up?

16. a. Triangle ABC and ADE are similar triangles. Sides AB and AE are each 2 feet long. What is the length of side AD ?



b. What is the size-change factor?

Solve. Follow the rules for the order of operations.

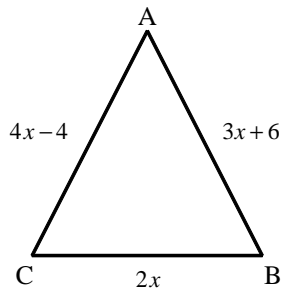
17. $12 + 9/3 * 7 =$ _____

18. $9 * 8 - 3^2 + 7 =$ _____

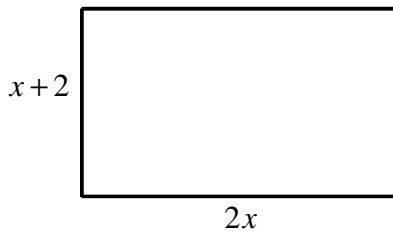
Solve. Follow the rules for the order of operations.

19. $11 * 4 + 8 - 16 \div 4 =$ _____

20. If $x = 3$ m, what is the perimeter of the triangle ABC ?



21. If $x = 5$, find the area of the rectangle.



Divide.

22. $148.32 \div 16 =$ _____

23. $29.916 \div 3.6 =$ _____

[1] a.

inches	3.2	4.8	24	6.4	1
people	2	3	15	4	$\frac{5}{8}$

b. 1.6 inches

c. \$1.33

d. Sample answer: I divided 20 by 15.

[2] $s = 24$

[3] $t = 8$

[4] $t = 4$

[5] $s = 8$

[6]

inches	10	5	25	20	0.625
hours	16	8	40	32	1

$$\frac{\boxed{5}}{\boxed{8}} = \frac{\boxed{20}}{\boxed{n}}$$

32 hours

[7]

miles	1	132	44	396
gallons	0.111	3	1	9

$$\frac{\boxed{132}}{\boxed{3}} = \frac{\boxed{n}}{\boxed{9}}$$

396 miles

[8] $\frac{\boxed{\text{boxes of pencils}}}{\boxed{\text{dollars}}} = \frac{\boxed{4}}{\boxed{5}} = \frac{\boxed{c}}{\boxed{10}}$; 8 boxes of pencils

[9] $\frac{\boxed{\text{pages}}}{\boxed{\text{minutes}}} = \frac{\boxed{20}}{\boxed{50}} = \frac{\boxed{u}}{\boxed{40}}$; About 16 pages

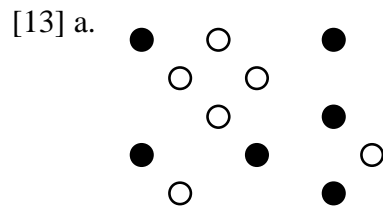
$$[10] \frac{\boxed{\text{question missed}}}{\boxed{\text{number of questions}}} = \frac{\boxed{70}}{\boxed{100}} = \frac{\boxed{r}}{\boxed{20}} ; 14 \text{ questions}$$

$$[11] \frac{\boxed{\text{hits}}}{\boxed{\text{times at bat}}} = \frac{\boxed{16}}{\boxed{32}} = \frac{\boxed{c}}{\boxed{100}} ; 50 \%$$

[12] a.

Food Label	Food	$\frac{\text{Calories from Fat}}{\text{Total Calories}}$	Estimated Fat Percent
Nutrition Facts Serving Size 1 cup (225 g) Serving Per Container 1 <hr/> Amount Per Serving <hr/> Calories 170 Calories from Fat 38	mango yogurt	$\frac{38}{170}$	About 22
Nutrition Facts Serving Size 1 cup (225 g) Serving Per Container 1 <hr/> Amount Per Serving <hr/> Calories 200 Calories from Fat 43	vanilla yogurt	$\frac{43}{200}$	About 22

b. Answers will vary.



- b. 50 %
- c. 1 to 1
- d. 2 more circles

[14] 63 cards

[15] 20 cards

[16] a. 4 ft
b. 2

[17] 33

[18] 70

[19] 48

[20] 29 m

[21] 70 square units

[22] 9.27

[23] 8.31