Ratio & Proportion

RATIO & PROPORTION 1

1. Write as ratios:

   a. 6 nickels to 25 quarters _____

   b. 3 hits out of 8 times at bat _____

2. Reduce these ratios to lowest terms:

   a. $\frac{13}{52}$ _____

   b. 9:12:6 _____

   c. 85:17 _____

3. State whether the following form proportions:

   a. 3:4 and 16:24 _____

   b. $\frac{55}{11}$ and $\frac{13}{26}$ _____

4. Find the value of the variable in the following proportions:

a. 7:13 = x:52 _____

b. c:4 = 16:2 _____

c. $\frac{15.5}{d} = \frac{12}{576}$ _____

d. 7:15 = x:45 _____

e. $\frac{9}{21} = \frac{d}{7}$ _____

5. A friend has asked you to make a punch for a party. Your recipe used 2 cans of pineapple juice to 3 cans of orange juice to 4 cans of soda. You need to increase the recipe 2 ½ times. How many cans of pineapple juice, orange juice and soda do you need?

_____

ANSWER KEY

1. a. 6:125 b. 3:8

2. a. ¼ b. 3:4:2 c. 5:1

3. a. no b. no

4. a. 28 b. 32 c. 744 d. 21 e. 3

5. 5 cans pineapple juice, 7.5 cans orange juice, 10 cans soda

Source: Government of BC used with permission.

RATIO & PROPORTION 2

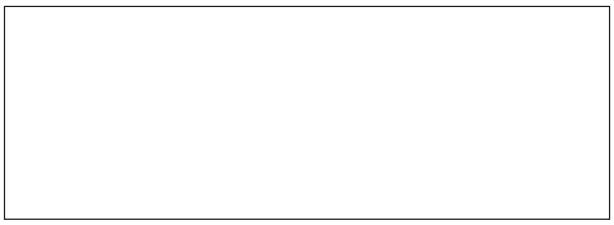
1. If you can eat 5 hot dogs in 3 minutes, how long would it take for 60 hot dogs to be eaten?

_____

2. A student skate-boarded 242 km in 16 days. At this rate, how far would the student travel in 24 days?

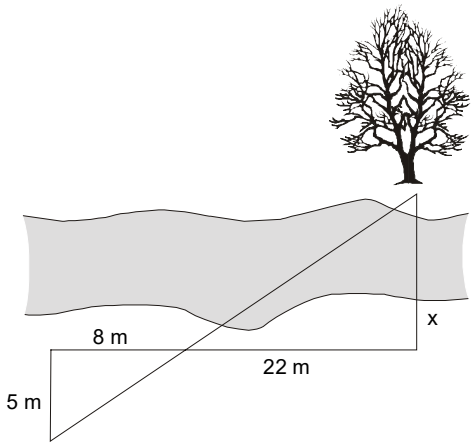
_____

3. The following is a scale diagram for a backyard. Mario wants to know the length and width of the yard so that he can build a fence. (the scale is 1:375)



4. A painter wants to determine how high a building is. He knows the building's shadow is 28 m. The painter's height is 1.8 m and his shadow's length is 2.4 m. Using similar triangles, find the building's height.

5. Find the distance, x, across the creek.



ANSWER KEY

1. 36 minutes
2. 363 km
3. length = 3000 cm or 30 m, width = 1125 cm or 11.25 m
4. 21 m
5. 13.75 m

Source: Government of BC used with permission.

RATIO & PROPORTION 3

1. Write as ratios:

   a. 35 days to 6 weeks _____

   b. 5 mm to 7 mm _____

2. Reduce these ratios to lowest terms:

   a. $\frac{82}{98}$ _____

   b. 8:24:72 _____

   c. 72:36 _____

3. State whether the following form proportions:

   a. 7:8 and 17:19 _____

   b. $\frac{8.5}{17}$ and $\frac{3}{6}$ _____

4. Find the value of the variable in the following proportions:

a. 7:8 = x:112 _____

b. $\frac{5}{c} = \frac{22.5}{18}$ _____

c. $\frac{2}{5} = \frac{12}{d}$ _____

d. 3.1:9.3 = 4.2=d _____

e. 6:8 = 48:y _____

5. In a recipe, the ratio of milk to flour is 5 to 12. If 3 cups of milk are needed, how many cups of flour are also used?

_____

ANSWER KEY

1. a. $\frac{35}{42}$ b. $\frac{5}{7}$

2. a. $\frac{41}{49}$ b. 1:3:9 c. 2:1

3. a. no b. yes

4. a. 98 b. 4 c. 30 d. 12.6 e. 64

5. 7.2 cups of flour

Source: Government of BC used with permission.

RATIO & PROPORTION 4

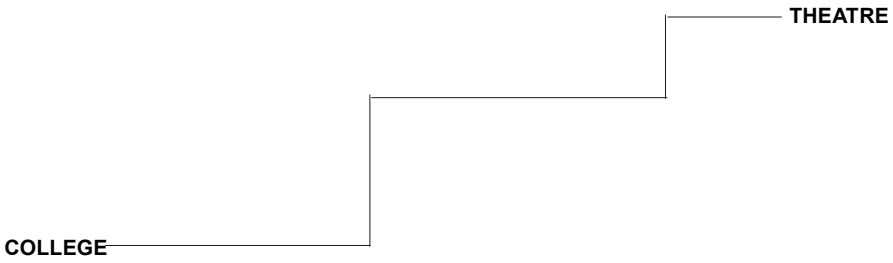
1. A student biked 270 km in 15 days. At this rate, how far would the student travel in 25 days?

_____

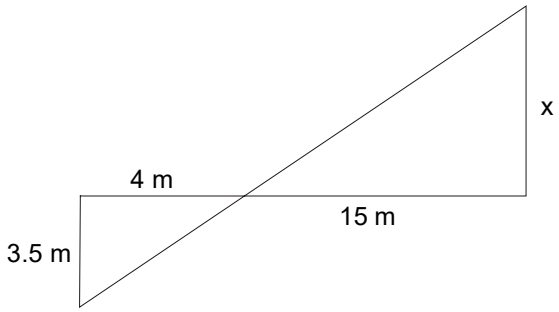
2. In a package of 144 LED mini-lights, there were 6 “duds”. How many “duds” would you find in a package of 360?

_____

3. The following diagram gives directions on how to get from the college to the theatre. The scale of the map is 1 cm:2 km. How far do you have to travel to get to the theatre from the college?



4. Find the distance, x, across the parking lot to the beach.



5. If a 2.0 m person casts a shadow of 3.0 m and a tree casts a shadow of 45 m, how tall is the tree?

ANSWER KEY

1. 450 km
2. 15 “duds”
3. 24.2 km
4. x = 13.125 m
5. 30 m

Source: Government of BC used with permission.