

8.2 Proportional Equations

MATH 7

Write your questions here!



Mr. Brust aka LeBrust makes 80% of his free throws.

Shots Attempted	Shots Made
10	
20	
60	
	4
	24
	12

Proportionality Constant $k =$

EQUATION

How many shots would Mr. Brust make if he attempted 18 shots?

How many attempts would Mr. Brust need to make 40 shots?

Main Squeeze Lemonade is 2 cups concentrate and 3 cups water.

a. Write an equation to represent this.

b. How much concentrate should you use with 10 cups of water? Use your equation.

c. How much water should you use with 8 cups of concentrate? Use your equation.

Water (cups)	Concentrate (cups)
50	
10	
	15

Use the equation $y = 3x - 5$ answer the following.

a. Find y when $x = 6$

b. Find x when $y = -20$

x	y
0	
-3	
	13
	-15

c. Is the equation proportional?

SUMMARY:

Now, summarize your notes here!



8.2 Proportional Equations

PRACTICE

Use the situation to answer the questions and fill in the table.

1. Sully does 3 out of every 5 problems correctly.

- Write an equation to represent this.
- If Mr Sully takes a test with 50 problems, how many will he get correct? Use your equation.
- If Mr Sully does a homework and gets 15 correct, how many problems were on the homework?

# of problems	# done correctly
50	
10	
	15
	12

2. 10% of people are left handed.

- Write an equation to represent this.
- If there are group of 80 people, how many are left handed? Use your equation.
- If a group of people has 9 left handed people, how many are in the group? Use your equation.

People (#)	Left handed (#)
100	
18	
	15
	6

3. The recipe for “Crusty Lemonade” is 1 part concentrate for every 4 cups of water.

- Write an equation to represent this.
- How much water should you use with 8 cups of concentrate? Use your equation.
- How much concentrate should you use with 12 cups of water? Use your equation.

Water (cups)	Concentrate (cups)
12	
6	
	8
	10

Use the equation to answer the questions and fill in the table.

4. Equation: $y = -2x + 4$

a. Find y when $x = 6$

b. Find x when $y = 6$

x	y
1	
3	
	22
	-10

c. Is the equation proportional? YES or NO

5. Equation: $y = 1.2x$

a. Find y when $x = 6$

b. Find x when $y = 6$

x	y
0	
-6	
	10
	-24

c. Is the equation proportional? YES or NO

6. Equation: $m = 6h + 4$

a. Find m when $h = 6$

b. Find h when $m = 6$

h	m
3	
-4	
	10
	16

c. Is the equation proportional? YES or NO

7. Equation: $d = \frac{3}{4}t$

a. Find t when $d = 6$

b. Find d when $t = 6$

t	d
0	
-8	
	9
	10

c. Is the equation proportional? YES or NO

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WRAP UP

1. Given the equation $y = -4x + 7$

Find x if $y = 23$.

Is the equation proportional? YES or NO

2. Given the equation $y = 2x$

Fill in the table.

x	y
4	
-5	
	18
	-10

Is the equation proportional? YES or NO

3. The following are recipes for competing brands of lemonade.

Recipe Name: "Crusty Lemonade"

1 cup of concentrate
4 cups of water

Recipe Name: "GOATonade"

$\frac{3}{5}$ cup concentrate
1 cup water

Recipe Name: "Richest Citrus"

$\frac{1}{2}$ cup concentrate
2 cups water

Sully and Kelly want to know what percent of "Crusty Lemonade" is concentrate. They both write an equation to represent the percent concentrate of the lemonade. Who is correct? Explain why

Sully's Equation

$$y = 0.25x$$

Kelly's Equation

$$y = 0.2x$$

EXIT TICKET –

Mr. Brust loves Taco Bell. He eats 5 burritos every 3 hours.

- Write an equation to represent this situation.
- What are your TWO variables and what do they represent:
- Use your equation to determine how long it would take to eat 18 burritos.