Review

NAME:_____

DATE:_____

Fill in the table below.

1.

Ratio (Fraction)	Decimal	Percent
$\frac{3}{5}$	0.6	60%
$\frac{6}{100} = \frac{3}{50}$	0.06	6 %
$\frac{35}{100} = \frac{7}{20}$	0.35	35%

Answer the following.

2. In Bob's closet, there are 10 shirts and 4 pants.

 a. What is the ratio of shirts to pants?

 $\frac{10}{4} = \frac{5}{2}$

 b. What is the ratio of shirts to total items?

 $\frac{10}{14} = \frac{5}{7}$

 c. What percent of the items in the closet are shirts?

 $\frac{10}{14} = 0.7142 = \boxed{71.42\%}$

The following is proportional. Fill in the missing table, equation, and verbal.

3. **Verbal:** Mr. Sullivan makes ___3___ Insta posts every ___5___ days.

Table

Time (days)	Insta Posts (#)
5	3
2	$\frac{6}{5} = 1.2$
10	6
15	9

Equation

$k = \frac{3}{5}$

Write the equation.

$$y = \frac{3}{5}x$$

Graph

$(10,6)$

$(5,3)$
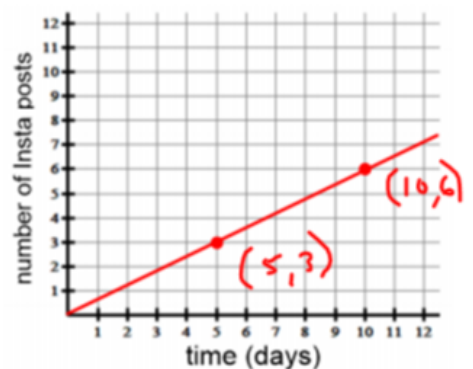
For questions 4-7, use the equation $y = \frac{5}{4}x$

4. Find y when $x = 8$

 $y = \frac{5}{4}(8)$

 $\boxed{y = 10}$

5. Find x when $y = -20$

 $(4) -20 = \frac{5}{4}x (4)$

 $\frac{-80}{5} = \frac{5x}{5}$

 $\boxed{-16 = x}$

6. Fill in the table

x	y
-12	-15
2	$\frac{5}{2}$ or 2.5
$\frac{24}{5}$ or 4.8	6
-16	-20

$y = \frac{5}{4}(-12)$ $y = \frac{5}{4}(2)$

$y = -15$ $y = \frac{10}{4} = \frac{5}{2}$

$6 = \frac{5}{4}x$ $-20 = \frac{5}{4}x$

$x = \frac{24}{5}$ $x = -16$

7. Is the equation proportional? (YES) or NO

8. Mr. Brust and Mr. Kelly are filling up their hot tubs. .

BRUST

Mr Brust pumps in 6 gallons of water every 2 minutes.

KELLY

Mr. Kelly already has 8 gallons of water in his hot tub, he pumps in 2 gallons of water every minute.
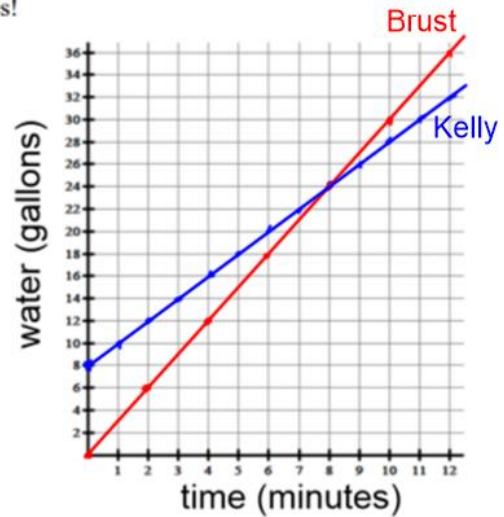
a. Complete the tables and graph each relationship. Label your lines!

BRUST

Time (minutes)	Water (gallons)
0	0
1	3
2	6
3	9
4	12
5	15
10	30

KELLY

Time (minutes)	Water (gallons)
0	8
1	10
2	12
3	14
4	16
5	18
10	28

b. Are the relationships proportional? Explain why or why not.

Is BRUST proportional = (Yes) or No

Straight line through the origin

Is KELLY proportional = Yes or (No)

Straight line through but does not contain the origin

c. If they are proportional, write an equation to represent the situation.

$y = 3x$

not proportional

d. How much water will Mr. Brust's hot tub have in 12 minutes? Use your equation.

$y = 3(12)$

$y = 36 \text{ gallons}$

e. How long will it take for Mr. Brust's hot tub to have 120 gallons of water? Use your equation.

$\dfrac{120}{3} = \dfrac{3x}{3}$

$40 = x$

40 minutes

f. **CHALLENGE** Mr. Kelly's hot tub holds a total of 2,040 gallons of water. He wants to use the tub in exactly one day from now. Will his hot tub be full? Show work to support your answer.

1 day = 24 hours

24(60) = 1440 minutes

1 day is 1440 minutes

$y = 2x + 8$

$2040 = 2x + 8$

$-8 \qquad -8$

$\dfrac{2032}{2} = \dfrac{2x}{2}$

$1016 = x$

it will take 1016 minutes to fill

yes, one day is 1440 minutes, it will take 1016 minutes to fill up 2040 gallons.