Constant of Proportionality:

TABLES, GRAPHS, AND EQUATIONS

In a proportional relationship, the **constant of proportionality**, also known as the unit rate, is the ratio of *y* to *x*. It can be represented by the variable *k*.

Directions: Determine the constant of proportionality for each proportional relationship below. Write your answer on the line.

---

1. This table shows the proportional relationship between the tablespoons of vinegar, *x*, and the tablespoons of oil, *y*, that Paul mixed together to make salad dressing.

x	1	2	3	5
y	3	6	9	15

k = _____

2. This equation shows the proportional relationship between the time (in hours) spent sailing, *x*, and the distance (in miles) that the Parker family traveled from shore, *y*.

$$y = 6x$$

k = _____

---

3. This equation shows the proportional relationship between the number of doughnuts in each box at Bluebird Bakery, *x*, and the total number of doughnuts, *y*.
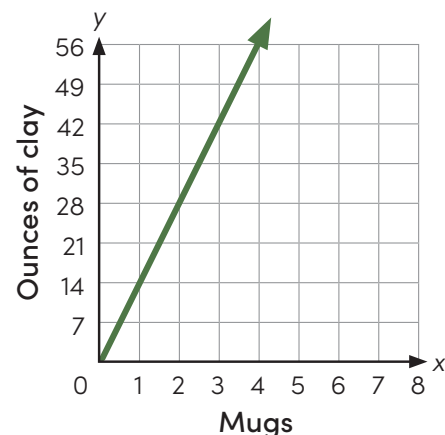
$$y = 12x$$

k = _____

4. This table shows the proportional relationship between the number of hours Josiah worked, *x*, and the number of dollars he earned, *y*.

x	2	4	6	10
y	$30	$60	$90	$150

k = _____

---

5. This graph shows the proportional relationship between the number of mugs Julia makes, *x*, and the amount of clay she uses (in ounces), *y*.

k = _____

Constant of Proportionality:

TABLES, GRAPHS, AND EQUATIONS

Keep going! Determine the constant of proportionality for each proportional relationship below. Write your answer on the line, and simplify any fractions.

6. This equation shows the proportional relationship between the cups of water, x, and the cups of flour, y, that Clara combined to make bread dough.

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

k = _____

7. This table shows the proportional relationship between the number of juice bottles purchased, x, and the total cost of the purchase, y.

x	3	9	21	24
y	$5.25	$15.75	$36.75	$42

k = _____

8. This table shows the proportional relationship between the amount of time (in hours) that it snowed yesterday, x, and the amount of snow (in inches) that fell, y.

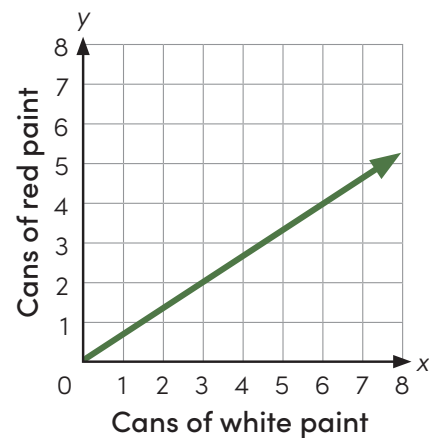| x	2	3	6	9
y	1	1.5	3	4.5

k = _____

9. This equation shows the proportional relationship between the distance (in miles) Tracy rides her motorcycle, x, and the amount of gas (in gallons) she uses, y.

$$y = 36.5x$$

k = _____

10. This graph shows the proportional relationship between the number of cans of white paint, x, and the number of cans of red paint, y, Samir mixed together to create pink paint.

Cans of red paint / Cans of white paint

k = _____