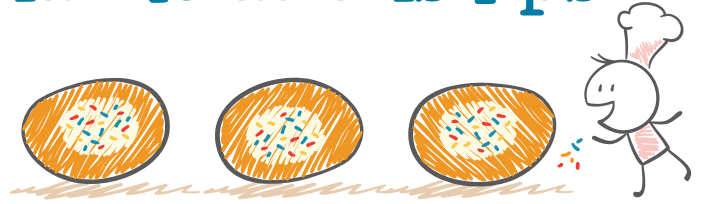


# Graphing Proportional Relationships

The head baker at Early Rise Bakery makes snickerdoodle cookies every day. For every 24 snickerdoodle cookies the baker makes, he uses 2 cups of sugar. The number of cookies made,  $y$ , is proportional to the cups of sugar used,  $x$ . Let's graph this proportional relationship!



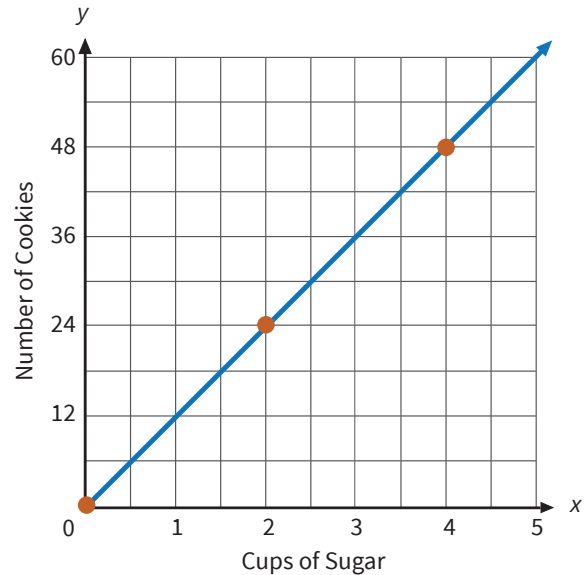
Find points that satisfy the relationship and plot them. Then connect them with a line.

- The baker wouldn't use any cups of sugar for 0 cookies, so the point  $(0, 0)$  satisfies this relationship. All proportional relationships include the point  $(0, 0)$ .
- The baker uses 2 cups of sugar for 24 cookies, so another point is  $(2, 24)$ .
- The baker would use 4 cups of sugar for 48 cookies, so another point is  $(4, 48)$ .

To find the constant of proportionality, pick one of the points other than  $(0, 0)$  and divide  $y$  by  $x$ .

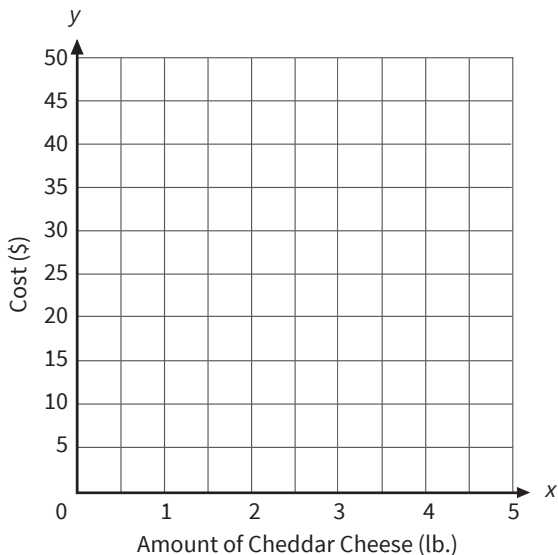
$$\frac{\text{number of cookies } (y)}{\text{cups of sugar } (x)} = \frac{24}{2} = 12 \text{ cookies per cup of sugar}$$

You can see the constant of proportionality on the graph at  $(1, 12)$ .



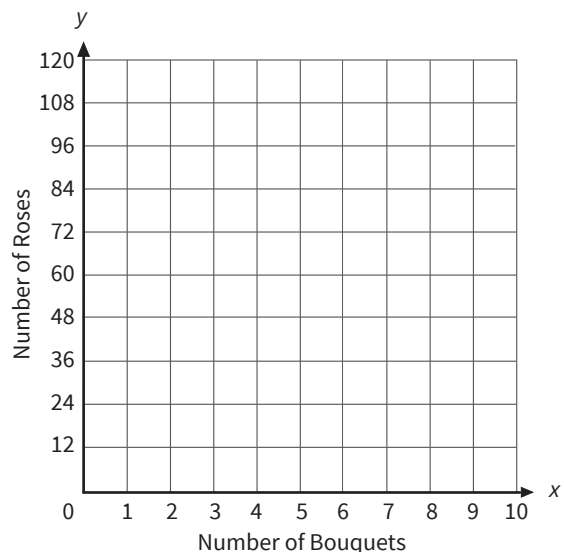
**Try it!** Graph the proportional relationship by plotting at least 3 points and connecting them with a line. Then find the constant of proportionality.

At Geraldo's Deli, Fred ordered 2 pounds of cheddar cheese. He paid \$10 in all. The cost,  $y$ , is proportional to the amount of cheddar cheese,  $x$ .



What is the constant of proportionality? \_\_\_\_\_

Evelyn works at a flower shop. This morning, she made 5 seasonal bouquets. Evelyn used a total of 60 roses in the bouquets. The number of roses,  $y$ , is proportional to the number of bouquets,  $x$ .

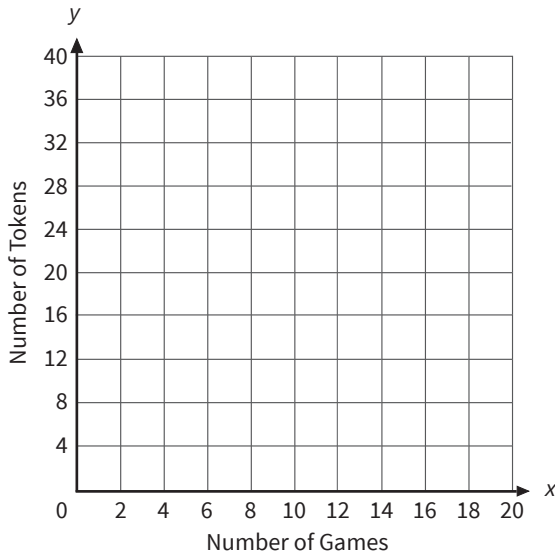


What is the constant of proportionality? \_\_\_\_\_

# Graphing Proportional Relationships

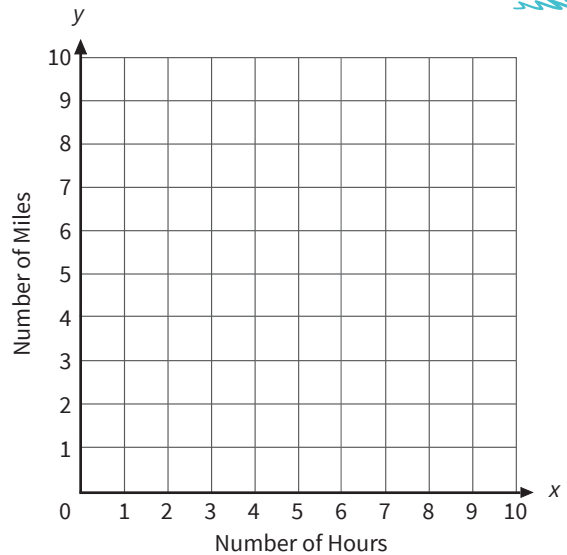
**Keep going!** Graph the proportional relationship by plotting at least 3 points and connecting them with a line. Then find the constant of proportionality.

At Galaxy Game Zone, Nolan used 16 tokens to play 4 games of air hockey. The number of tokens,  $y$ , is proportional to the number of games,  $x$ .



What is the constant of proportionality? \_\_\_\_\_

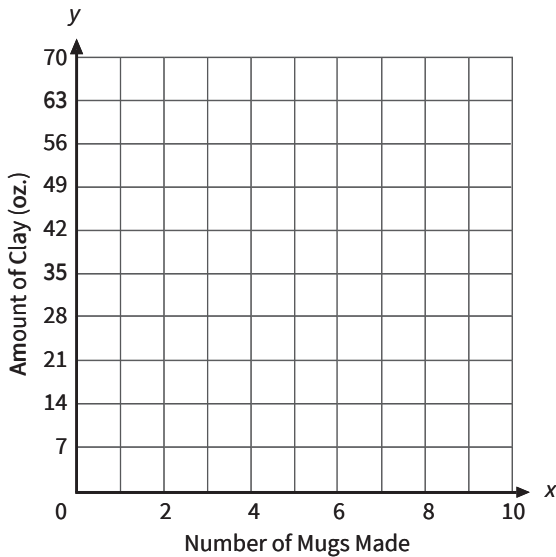
Lexi went hiking at Chestnut Trails yesterday. It took her 4 hours to hike a 10 mile trail. The number of miles hiked,  $y$ , is proportional to the hours hiked,  $x$ .



What is the constant of proportionality? \_\_\_\_\_

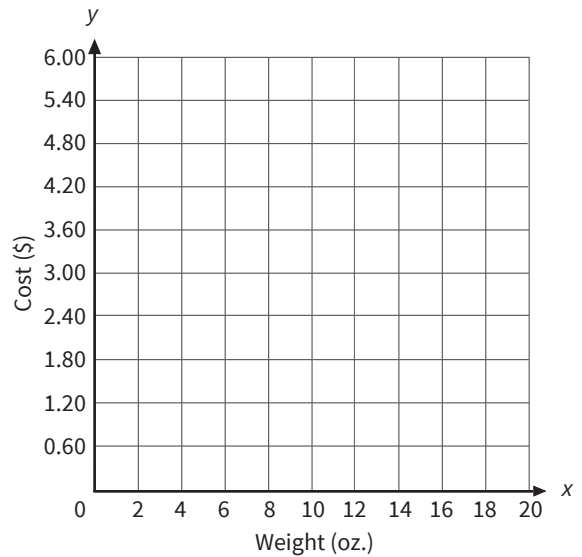


Toby visited a pottery studio. He made 3 mugs using 42 ounces of clay. The amount of clay used,  $y$ , is proportional to the number of mugs made,  $x$ .



What is the constant of proportionality? \_\_\_\_\_

At Pip's Frozen Custard, Riley filled her bowl with her favorite flavors and toppings. Her bowl weighed 8 ounces and cost \$4.80. The cost,  $y$ , is proportional to the weight,  $x$ .



What is the constant of proportionality? \_\_\_\_\_