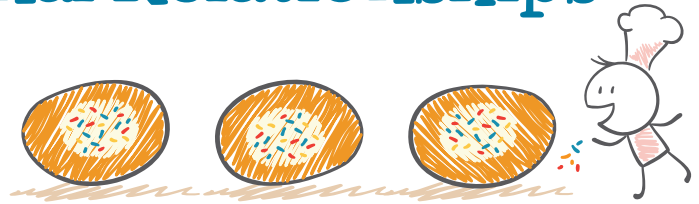


Graphing Proportional Relationships

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!



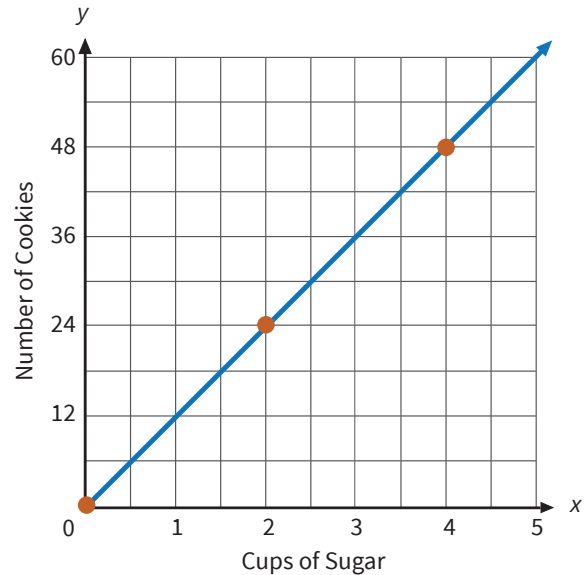
Find points that satisfy the relationship and plot them. Then connect them with a line.

- 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 .

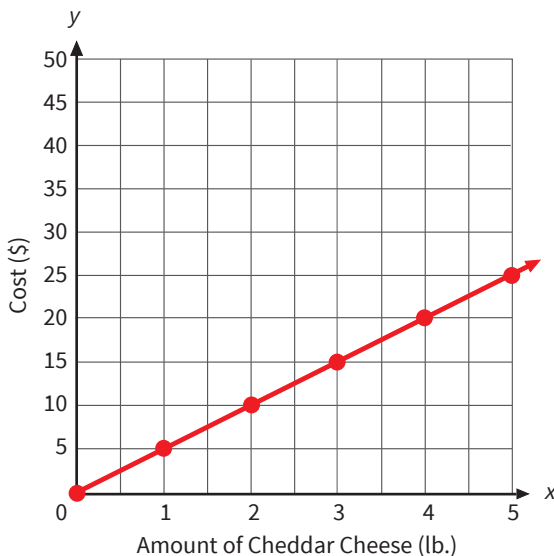
$$\frac{\text{number of cookies } (y)}{\text{cups of sugar } (x)} = \frac{24}{2} = 12 \text{ cookies per cup of sugar}$$

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



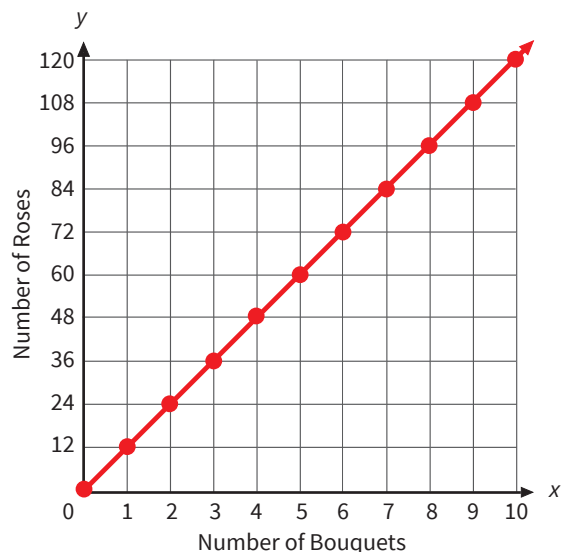
Try it! Graph the proportional relationship by plotting at least 3 points and connecting them with a line. Then find the constant of proportionality.

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? 5

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 .

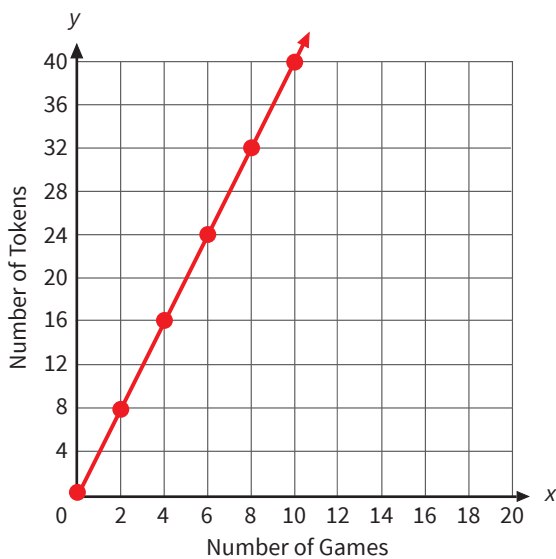


What is the constant of proportionality? 12

Graphing Proportional Relationships

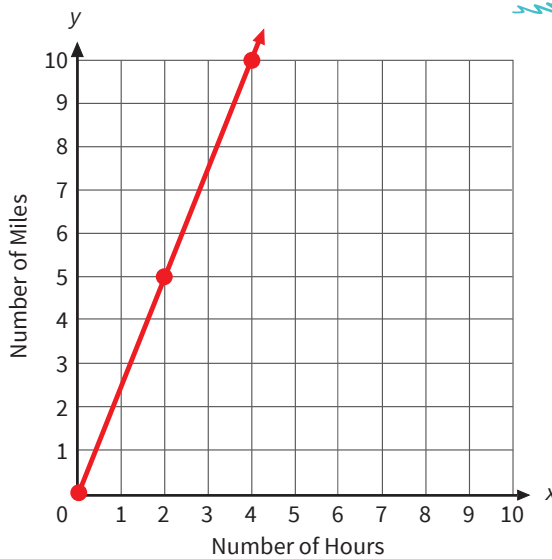
Keep going! Graph the proportional relationship by plotting at least 3 points and connecting them with a line. Then find the constant of proportionality.

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? 4

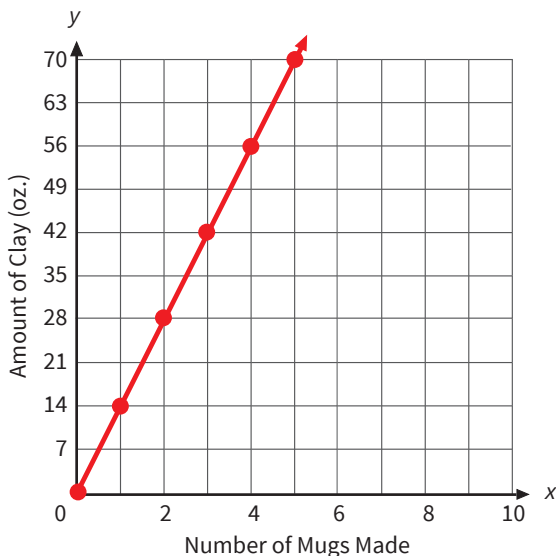
Lexi went hiking at Chestnut Trails yesterday. It took her 4 hours to hike a 10 mile trail. The number of miles hiked, y , is proportional to the hours hiked, x .



What is the constant of proportionality? 2.5

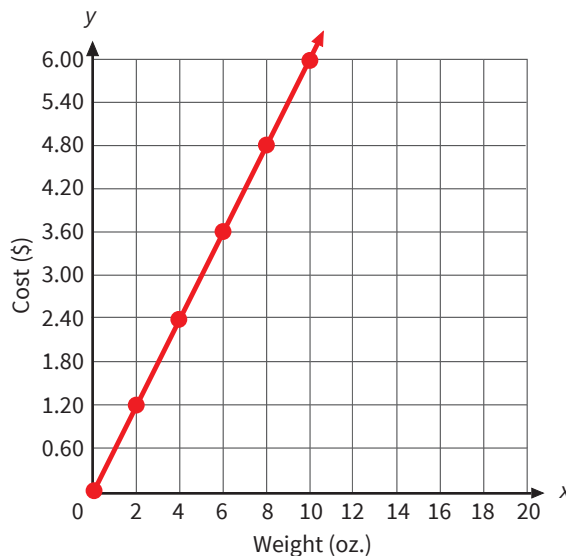


Toby visited a pottery studio. He made 3 mugs using 42 ounces of clay. The amount of clay used, y , is proportional to the number of mugs made, x .



What is the constant of proportionality? 14

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? 0.60