Name _____ Date _____

Identify the Constant of Proportionality Guided Lesson Explanation

For All Questions We Need To Know:

The graph of a proportional relationship is a straight line that passes through the origin. Proportional quantities can be described by the equation $y = kx$, where k is a constant ratio.

Explanation#1

We can tell that the relationship is directly proportional by looking at the graph. The graph is a straight line and it passes through the origin. So, the relationship is directly proportional.

We can also confirm that the linear relationship is directly proportional by showing that the relationship can be written as $y = kx$, where k is a constant ratio. First, create a chart. Use points from the graph, such as (30, 60), (60, 120), (90, 180), (120, 240) and (150, 300)..

Total Price (y) 60 120 180 240 300

Total Pound (x) 30 60 90 120 150

Now divide "Total number of price (y)" by "Number of pound (x)" to find the ratio (k).

Total Price (y) 60 120 180 240 300

Total Pound (x) 30 60 90 120 150

Ratio (K) 2 2 2 2 2

The ratio is constant (k = 2), so the relationship can be described by the equation $y = 2x$. This equation means that the total price is always 2 times the number of pounds.

Explanation#2

First, create a chart. Use points from the graph, such as (1, 40), (2, 80), (3, 120), (4, 160) and (5, 200)..

Total Price (y) 40 80 120 160 200

Total Pound (x) 1 2 3 4 5

Name _____ Date _____

Now divide "Total number of price (y)" by "Number of pound (x)" to find the ratio (k).

Total Price (y) 40 80 120 160 200

Total Pound (x) 1 2 3 4 5

Ratio (K) 40 40 40 40 40

The ratio is constant (k = 40), so the relationship can be described by the equation $y = 40x$. This equation means that the total price is always 40 times the number of pounds.

Explanation#3

We can tell that the relationship is directly proportional by looking at the graph. The graph is a straight line and it passes through the origin. So, the relationship is directly proportional.

Create a chart. Use points from the graph, (1, 10), (2, 20), (3, 30), (4, 40) (5, 50)and (6, 60)..

Total Price (y) 10 20 30 40 50 60

Total Pound (x) 1 2 3 4 5 6

Now divide "Total number of price (y)" by "Number of pound (x)" to find the ratio (k).

Total Price (y) 10 20 30 40 50 60

Total Pound (x) 1 2 3 4 5 6

Ratio (K) 10 10 10 10 10

The ratio is constant (k = 10), so the relationship can be described by the equation $y = 10x$. This equation means that the total price is always 10 times the number of pounds.