Proportional Relationship Worksheets

1. Stefanie drove at a constant speed from her apartment to her friend's house 20 miles away. It took her 45 minutes to reach her destination.

a) What fraction represents her constant speed, C?

b) What fraction represents constant speed, C, if it takes her x number of minutes to get halfway to her friend's house?

c) Write and solve a proportion using the fractions from parts (a) and (b) to determine how many minutes it takes her to get to the halfway point.

d) Write a two-variable equation to represent how many miles Stefanie can drive over any time interval.

Proportional Relationship Worksheets

1. Stefanie drove at a constant speed from her apartment to her friend's house 20 miles away. It took her 45 minutes to reach her destination.

a) What fraction represents her constant speed, C?

$$\frac{20}{45} = C$$

b) What fraction represents constant speed, C, if it takes her x number of minutes to get halfway to her friend's house?

$$\frac{10}{x} = C$$

c) Write and solve a proportion using the fractions from parts (a) and (b) to determine how many minutes it takes her to get to the halfway point.

$$\frac{20}{45} = \frac{10}{x}$$
$$20x = 450$$
$$\frac{20}{20}x = \frac{450}{20}$$
$$x = 22.5$$

Stefanie gets halfway to her friend's house, 10 miles away, after 22.5 minutes.

d) Write a two-variable equation to represent how many miles Stefanie can drive over any time interval.

Let y represent the distance traveled over any time interval x. Then,

$$\frac{20}{45} = \frac{y}{x}$$
$$20x = 45y$$
$$\frac{20}{45}x = \frac{45}{45}y$$
$$\frac{4}{9}x = y.$$

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