Algebra Word Problems Worksheets

1. Brand A scooter has a top speed that goes 2 miles per hour faster than Brand B. If after 3 hours, Brand A scooter traveled 24 miles at its top speed, at what rate did Brand B scooter travel at its top speed if it traveled the same distance? Write an equation to determine the solution.

2. At each scooter's top speed, Brand A scooter goes 2 miles per hour faster than Brand B. If after traveling at its top speed for 3 hours, Brand A scooter traveled 40.2 miles, at what rate did Brand B scooter travel if it traveled the same distance as Brand A?

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1. Brand A scooter has a top speed that goes 2 miles per hour faster than Brand B. If after 3 hours, Brand A scooter traveled 24 miles at its top speed, at what rate did Brand B scooter travel at its top speed if it traveled the same distance? Write an equation to determine the solution.

x: *speed, in mph, of Brand B scooter*

$x + 2$: *speed, in mph, of Brand A scooter*

$$d = rt$$
$$24 = (x + 2)(3)$$
$$24 = 3(x + 2)$$
$$8 = x + 2$$
$$8 - 2 = x + 2 - 2$$
$$6 = x$$

2. At each scooter's top speed, Brand A scooter goes 2 miles per hour faster than Brand B. If after traveling at its top speed for 3 hours, Brand A scooter traveled 40.2 miles, at what rate did Brand B scooter travel if it traveled the same distance as Brand A?

x: *speed, in mph, of Brand B scooter*

$x + 2$: *speed, in mph, of Brand A scooter*

$$d = rt$$
$$40.2 = (x + 2)(3)$$
$$40.2 = 3(x + 2)$$
$$13.4 = x + 2$$
$$134 = 10x + 20$$
$$134 - 20 = 10x + 20 - 20$$
$$114 = 10x$$
$$\left(\frac{1}{10}\right)(114) = \left(\frac{1}{10}\right)(10x)$$
$$11.4 = x$$

Brand B's scooter travels at 11.4 miles per hour.

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3. Brady rode his bike 70 miles in 4 hours. He rode at an average speed of 17 mph for t hours and at an average rate of speed of 22 mph for the rest of the time. How long did Brady ride at the slower speed? Use the variable t to represent the time, in hours, Brady rode at 17 mph

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3. Brady rode his bike 70 miles in 4 hours. He rode at an average speed of 17 mph for t hours and at an average rate of speed of 22 mph for the rest of the time. How long did Brady ride at the slower speed? Use the variable t to represent the time, in hours, Brady rode at 17 mph

	Rate (mph)	*Time (hours)*	*Distance (miles)*
Brady speed 1	17	t	$17t$
Brady speed 2	22	$4 - t$	$22(4 - t)$

Total distance

The total distance he rode: $17t + 22(4 - t)$

The total distance equals 70 miles:

$$17t + 22(4 - t) = 70$$
$$17t + 88 - 22t = 70$$
$$-5t + 88 = 70$$
$$-5t + 88 - 88 = 70 - 88$$
$$-5t = -18$$
$$t = 3.6$$