2. In 2 minutes, a conveyor belt moves 300 pounds of tin from the delivery truck to a storage area. A smaller belt moves the same amount the same distance in 6 minutes. If both belts are used, find how long it takes to move the cans to the storage area.

3. A cyclist rode the first 20-mile portion of his workout at a constant speed. For the 16-mile cooldown portion of his workout, he reduced his speed by 2 miles per hour. Each portion of the workout took the same time. Find the cyclist's speed during the first portion and find his speed during the cooldown portion.

$$\frac{D}{R} = \frac{RT}{R} \qquad \frac{D}{R} = T$$

	Distance	Rate	Time
First portion	20 mi	x	$\frac{20}{x}$
Cooldown	16 mi.	$x-2$	$\frac{16}{x-2}$

$$\frac{20}{x} = \frac{16}{x-2}$$

$$20(x-2) = 16x$$

$$20x - 40 = 16x$$
$$-20x -20x$$
$$-40 = -4x$$

$$10 = x$$

| 10mph First portion |
| 8 mph Cool down |

4. Fran can clean the garage in 3 hours, but it takes Angie 4 hours to do the same job. How long would it take them to clean the garage if they worked together?.

5. If m varies inversely as p, and m = 30 when p = 5, find m when p is 6.

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$x =$ Still water $c =$ current

6. Garth can row 5 miles per hour in still water. It takes him as long to row 4 miles upstream as 16 miles downstream. How fast is the current?

	Distance	Rate	Time
Upstream	4	$x-c$ 5−C	4/5−c
Downstream	16	$x+c$ 5+C	16/5+c

$$\frac{4}{5-c} \times \frac{16}{5+c}$$

$$4(5+c) = 16(5-c)$$
$$20 + 4c = 80 - 16c$$
$$\underline{+16c \qquad\quad +16c}$$
$$20 + 20c = 80$$

$$20c = 60$$
$$c = 3$$

Current 3mph

7. A boat goes 240 miles downstream in the same time it can go 160 miles upstream. The speed of the current is 5 miles per hour. What is the speed of the boat in still water?

	Distance	Rate	Time
Upstream			
Downstream			

8. A plane flies 910 miles with the wind in the same time it can go 660 miles against the wind. The speed of the plane in still air is 305 miles per hour. What is the speed of the wind?

	Distance	Rate	Time
Against		$X-W$	
With		$X+W$	

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