

Distance Word Problems...

1. Two jets leave St. Louis at 2 PM, one traveling north at 850 km/h and the other south at 750 km/h. At what time will they be 4000 km apart?

	Rate	Time	Distance
Northbound	850	x	850x
Southbound	750	x	750x

Northbound Distance + Southbound Distance = Total Distance

$$850x + 750x = 4000$$

2. Lisa can bike 6 km/h faster than Wendy. At noon, each girl leaves her house, traveling toward each other. If the distance between their houses is 20 km and they meet in 0.5 h, what is each girl's rate?

	Rate	Time	Distance
LISA	x + 6	0.5	0.5(x + 6)
WENDY	x	0.5	0.5x

Lisa's Distance + Wendy's Distance = Total Distance

$$0.5x + 0.5(x + 6) = 20$$

3. It takes a train 90 min longer to go from Farmington to Allentown at 60 km/h than it does to return at 80 km/h. What is the distance between these towns?

	Rate	Time	Distance
TO ALLENTOWN	60	x + 1.5	60(x + 1.5)
TO FARMINGTON	80	x	80x

Allentown trip Distance = Farmington trip Distance

$$60(x + 1.5) = 80x$$

4. A car travels 418 km in 6 hours. One hour of the trip is in the city, whose average speed is just half of what the car averaged on the turnpike for the rest of the trip. What was the car's average city speed?

	Rate	Time	Distance
CITY	x	1	1x
TURNPIKE	2x	5	2x(5)

City Distance + Turnpike Distance = Total Distance

$$1x + 5(2x) = 418$$

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5. Kelly rode her bike from home to the repair shop and then walked home. She spent 10 min riding, 5 min talking to the attendant, and 20 min walking. If Kelly's walking speed is 12 km/h less than her biking speed, find the distance from her house to the repair shop.

	<i>Rate</i>	<i>Time</i>	<i>Distance</i>
<i>RIDING</i>	$x + 12$	$1/6$	$1/6(x + 12)$
<i>WALKING</i>	x	$1/3$	$1/3(x)$

Distance Riding = Distance Walking

$$1/6(x + 12) = 1/3(x)$$