Four consecutive multiples of seven have a sum of 378. Write and solve an equation to find these numbers.

$(x)+(x+7)+(x+14)+(x+21)=378$

$4x+42=378$

$-42 \quad -42$

$\frac{4x}{4}=\frac{336}{4}$

$x=84$

84, 91, 98, 105

Notes

Use this formula to answer the following problems: $d = rt$

d =distance r =rate(speed/velocity) t =time

1. You drove 261 miles in $4\frac{1}{2}$ hours. Find your rate of travel

$d=rt$

$\frac{261}{4.5}=\frac{r\,4.5}{4.5}$

$r = 58$ mph

2. You drove 65 mph for 6 hours. Find the distance you traveled.

$d=rt$

$d=65\cdot 6$

$d = 390$ mi

3. You drove 306 miles at a constant rate of 72 mph.

Find the time you were driving.

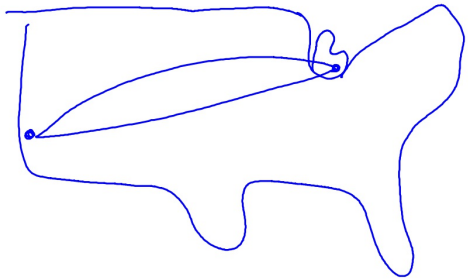
$d=rt$

$\frac{306}{72}=\frac{72t}{72}$

$t = 4.25$ hr

4. You flew round-trip from Detroit to Los Angeles. What is true about the distance traveled from Detroit to LA and the distance traveled on your return trip?

Same distance



5. You left the house on your bike. I left the house an hour later on my bike and finally caught you.

a) If we define t as the amount of time you were riding your bike then what expression would represent the amount of time I was riding my bike?

You = t hrs
I = $t-1$

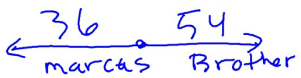
b) What is true about the distance each of us traveled once I've caught up to you?

Same distance

6. Marcus and his brother stood back-to-back. Marcus walked 4 ft/sec. Starting at the same time, his brother walked 6 ft/sec in the opposite direction.

a) How far has Marcus walked in 9 seconds?

$d = 4 \cdot 9 = 36$ ft



b) How far has his brother walked in 9 seconds?

$d = 6 \cdot 9 = 54$ ft

c) How far apart are they after 9 seconds.?

$36 + 54 = 90$ ft

Same Direction Travel:

Two people leave from the same location. One leaves before the other.
The second person follows the same path as the first.
What is true once the second person catches up with the first person?

Their distances travled are EQUAL!

Same Direction Travel

Ann leaves her house traveling 50mph. Her mother leaves an hour later traveling at 55mph. How long does it take for Ann's mother to catch up with her?

What do you do with their distances? Equal distances

	Distance =	Rate •	Time
Ann	$50x$	50	x
Mom	$55(x-1)$	55	$x-1$

$11\text{ hrs}: 50x = 55(x-1)$

$11-1: 50x = 55x - 55$

$= 10: -55x \quad -55x$

$\frac{-5x}{-5} = \frac{-55}{-5} \qquad x = 11$

It took Ann's mother 10 hours to catch up with her

How long does it take for Ann's mother to catch up with her?

This question asks for amount of time Ann's mother has traveled so the answer isn't what x equals, it is x -1 = 10 hours