

Jan. 29, 2018

Sect. 3-2

Algebraic Expressions ; Problem Solving  
Solving for a Specific Variable  
Words to expressions  
Word Problems

Solving for a Specific Variable

$$y = mx + b \quad \text{Solved for } y$$

Solve for  $b$

$$y = mx + b$$

$$\begin{array}{r} -mx \quad -mx \\ \hline \end{array}$$

$$y - mx = b$$

$$b = y - mx$$

$$y = mx + b$$

Solve for  $m$

$$y - b = mx$$

$$m = \frac{y - b}{x}$$

$$A = 2lw + 2lh + 2wh \quad \text{for } l$$

$$A - 2wh = 2lw + 2lh$$

$$\frac{A - 2wh}{2w + 2h} = \frac{l(2w + 2h)}{2w + 2h}$$

$$l = \frac{A - 2wh}{2w + 2h}$$

## Words to Expressions

2 plus a #	$2 + x$
the sum of 5 and a #	$5 + x$
3 more than a #	$3 + x$ $x + 3$
5 times a #	$5x$
the product of -2 and a #	$-2x$

6 minus a #

$$6 - x$$

4 less than a #

$$x - 4$$

~~$4 - x$~~

2 divided by a #

$$2 \div x$$
$$\frac{2}{x}$$

the quotient of 7 and a #

$$\frac{7}{x}$$

The sum of two consecutive odd integers is 12.  
Find the two integers.

Let  $a$  = first odd int.

Let  $a+2$  = next conc. odd int

$$(a) + (a+2) = 12$$

$$2a + 2 = 12$$

$$2a = 10$$

$$a = 5$$

$$a+2 = 7$$

5 and 7

are the  
two ints.



The number of girls in the band is 6 more than twice the number of boys. There are 88 girls in the band. How many boys are in the band?

$$\text{Girls} = 2(\text{Boys}) + 6$$

$$g = 2b + 6$$

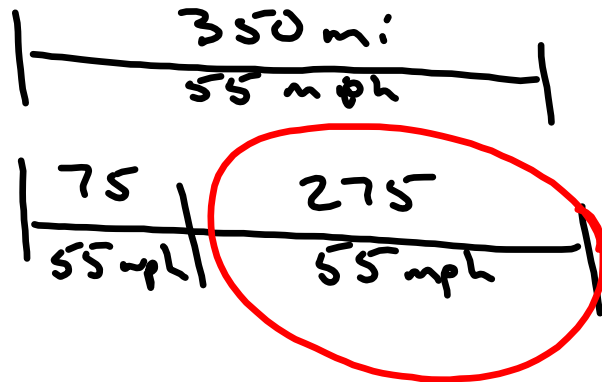
$$88 = 2b + 6$$

$$82 = 2b$$

$$b = 41$$

41 Boys

Kara has driven 75 miles. She has averaged 55 mph (mi/hr). How many more hours must she drive to have traveled a total of 350 miles?  $d = r t = (\text{speed})(\text{time})$



$$275 = 55 t$$

$$t = \frac{275}{55}$$

$$t = 5 \text{ hours}$$

Fred has 9 coins in his pocket; some are nickles and some are quarters. They have a total value of \$1.05. How many of each nickles and quarters does he have?

Let  $n = \#$  of nickles

Let  $9 - n = \#$  of quarters

$$.05n + (9 - n) \cdot .25 = 1.05$$

$$.05n + 2.25 - .25n = 1.05$$

$$-.20n = -1.20$$

$$n = 6 \quad \Rightarrow \quad 9 - 6 = 3$$

He has

6 nickles

3 quarters