

3.3

Solving Equations Using Adding and Subtracting

Do Now

1) $(3n - 1) + (4 - n)$

2) $3(w - 4) + (w + 12)$

3) $(2n - 4) - (4n - 3)$

4) $(c + 2) - 5(2c + 4)$

Key Words

+

-

×

÷

Translating variable equations

1) Ten more than a number is 12

2) The difference of 3 and a number is 8

3) The product of 7 and a number is 14

4) The quotient of a number and 6 is 20

5) The sum of -8 and a number is 34

6) Nine less than a number is 3

Translating variable expressions

$$7) \ 10t = 50$$

$$8) \ n + 3.2 = 7.2$$

$$9) \ x - 6 = 10$$

$$10) \ \frac{y}{20} = 4$$

Example 3

$$x + 9 = 14$$

Example 4

$$x - 7 = 6$$

Example 5

$$x - 12 = 51$$

Example 6

$$x + 9 = 28$$

Example 7

$$x - 8 = 38$$

Example 8

$$3 = x - 4$$

Example 9

$$x - (-3) = 9$$

Example 10

$$x + (-7) = 3$$

Solving Adding and Subtraction with Integers

$$1) \ x - 9 = -12$$

$$3) \ x + 9 = -4$$

$$2) \ x + (-3) = 7$$

$$4) \ x - (-7) = 5$$

Solving Adding and Subtraction with Integers

$$5) -6 = x - 15$$

$$6) 7 = x + (-9)$$

Writing equations

- 8) A company has a profit of \$750 this week. This profit is \$900 more than the profit P last week. Which equation can be used to find P ?



(a) $750 = 900 - P$

(b) $750 = P + 900$

(c) $900 = P - 900$

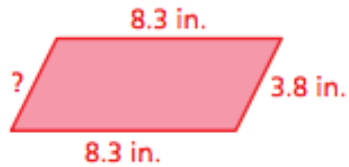
(d) $900 = P + 750$

Practice:

- 9) A company has a profit of \$120.50 this week. This profit is \$145.25 less than the profit P last week. Which equation can be used to find P ?

Geometry Examples

10) Write and solve an equation to find the unknown side length. Perimeter = 24.2 in.



11) Write and solve an equation to find the unknown side length. Perimeter = 34.6 ft

