

DO NOW

Solve $4 = 3t - 0.2$

$$4 + 0.2 = 3t$$

$$4.2 = 3t$$

$$\frac{4.2}{3} = t$$

$$\boxed{1.4 = t}$$

check:

$$\begin{array}{r|l} 4 & 3t - 0.2 \\ 4 & 3(1.4) - 0.2 \\ 4 & 4.2 - 0.2 \\ 4 & 4 \checkmark \end{array}$$

2.1 Solving Linear Equations - Day 3

like terms - same "last name"

- EXACTLY the same variable(s) and exponent(s)

Ex: $2x$ and $-5x$

7 and 3

unlike terms - different variables and/or exponents

Ex: $4x$ and 6

$-2m$ and $8n$

Eliminate Parentheses - FIRST and simplify each side

**Look at what is directly in front of the parentheses

1. $+$ → drop the parentheses

↳ distribute 1

$$3 + (x + 2)$$

2. $-$ → drop the $()$, change sign of each item in that $()$.

↳ distribute -1

$$3 - (x + 2)$$

3. $\#$ → distribute

$$3(x + 2)$$

Practice:

1. $2x + 3x + 4 = -6$

$$5x + 4 = -6$$

$$5x = -6 - 4$$

$$5x = -10$$

$$x = \frac{-10}{5}$$

$$\boxed{x = -2}$$

2. $15m + (4 - 9m) = -32$

$$15m + 4 - 9m = -32$$

$$6m + 4 = -32$$

$$6m = -32 - 4$$

$$6m = -36$$

$$m = \frac{-36}{6}$$

$$\boxed{m = -6}$$

3. $7x - (6x - 5) = 7$

$$7x - 6x + 5 = 7$$

$$x + 5 = 7$$

$$x = 7 - 5$$

$$\boxed{x = 2}$$

4. $4(c + 1) = 32$

$$4c + 4 = 32$$

$$4c = 32 - 4$$

$$4c = 28$$

$$c = \frac{28}{4}$$

$$\boxed{c = 7}$$

5. $5t - 2(t - 5) = 19$

$$5t - 2t + 10 = 19$$

$$3t + 10 = 19$$

$$3t = 19 - 10$$

$$3t = 9$$

$$t = \frac{9}{3}$$

$$\boxed{t = 3}$$

6. $8y - (5y + 2) = 16$

$$8y - 5y - 2 = 16$$

$$3y - 2 = 16$$

$$3y = 16 + 2$$

$$3y = 18$$

$$y = \frac{18}{3}$$

$$\boxed{y = 6}$$

check:

$$\begin{array}{r|l} 8y - (5y + 2) & 16 \\ 8(6) - (5(6) + 2) & 16 \\ 48 - (30 + 2) & 16 \\ 48 - 32 & 16 \\ 16 & 16 \checkmark \end{array}$$

$$\begin{aligned}
 7. \quad 27x - 3(x - 6) &= 6 \\
 27x - 3x + 18 &= 6 \\
 24x + 18 &= 6 \\
 24x &= 6 - 18 \\
 24x &= -12 \\
 x &= \frac{-12}{24} \\
 \boxed{x = -\frac{1}{2}}
 \end{aligned}$$

$$\begin{aligned}
 8. \quad 3(a - 5) - 2(2a + 1) &= 0 \\
 3a - 15 - 4a - 2 &= 0 \\
 -a - 17 &= 0 \\
 -a &= 0 + 17 \\
 -a &= 17 \\
 a &= \frac{17}{-1} \\
 \boxed{a = -17}
 \end{aligned}$$

HOMEWORK

Worksheet HW 2.1 - Day 3