Like Terms:

Terms that have both of the following conditions:

- Same variable(s)
- Same exponents on those variable(s)

- What doesn't matter?

the coefficient & the order of variables

Simplify each.

1. $6 + 2(4m - 9) - 12m - 5(3m + 7)$

$6 + 8m - 18 - 12m - 15m - 35$

$-19m - 47$

2. $-\frac{5}{6}(9m^2 - 36m) + 2m^2 - 3m$

$-\frac{45m^2}{6}$

$-\frac{15}{2}m^2 + 30m + 2m^2 - 3m$

$= -\frac{11}{2}m^2 + 27m$

$-\frac{15}{2} + \frac{2}{1} \cdot 2$

$-\frac{15}{2} + \frac{4}{2}$

3. $-9 + 4m^2(2m - 3) + 6m - 7 - 11m^3 + m^2 + 3m^3$

$-9 + 8m^3 - 12m^2 + 6m - 7 - 11m^3 + m^2 + 3m^3$

$-11m^2 + 6m - 16$

Section 2.1

Is x = 4 a solution to the following equation?

$$\sqrt{16x} - 5 = x - 1$$

$\sqrt{16 \cdot 4} - 5 = 4 - 1$

$8 - 5 = 4 - 1$

$3 = 3$ ✓

$x = 4$ is a solution

Solutions to an equation are
numbers that make the equation TRUE
when subtituted back into the equation.

Steps used to solve an equation are
the steps required to UNDO all the math operations needed in order to get the variable by itself on one side of the equal sign.

To UNDO a math operation in mathematics you use the INVERSE operation.

Inverse operations:

Addition and Subtraction
Multiplication and Division
Squaring and Square Root

Property **Addition Property of Equality**

For every real number a, b, and c, if $a = b$, then $a + c = b + c$.

Example $8 = 5 + 3$, so $8 + 4 = 5 + 3 + 4$.

Property **Subtraction Property of Equality**

For every real number a, b, and c, if $a = b$, then $a - c = b - c$.

Example $8 = 5 + 3$, so $8 - 2 = 5 + 3 - 2$.

Addition Property of Equality

You can add the same number to both sides of an equation and it will still be a true statement.

Subtraction Property of Equality

You can subtract the same number to both sides of an equation and it will still be a true statement.

Property **Multiplication Property of Equality**

For every real number a, b, and c, if $a = b$, then $a \cdot c = b \cdot c$.

Example $\frac{6}{2} = 3$, so $\frac{6}{2} \cdot 2 = 3 \cdot 2$.

Property **Division Property of Equality**

For every real number a, b, and c, with $c \neq 0$, if $a = b$, then $\frac{a}{c} = \frac{b}{c}$.

Example $3 + 1 = 4$, so $\frac{3+1}{2} = \frac{4}{2}$.

Multiplication Property of Equality

You can multiply both sides of an equation by the same number and it will still be a true statement.

Division Property of Equality

You can divide both sides of an equation by the same number (as long as you don't divide by zero) and it will still be a true statement.

Solve each.
Round to the nearest hundredth when needed.

1. $-7.3 + Q = 29.4$ $Q =$ 36.7

+7.3 +7.3

2. $-79 = H + 42$ $H =$ −121

−42 −42

3. $C - 401 = -674$ $C = -273$

$+401 \quad +401$

4. $13A = -105$ $A = \frac{-105}{13}$

$\frac{}{13} \quad \frac{}{13}$

5. $\frac{-1.5G}{-1.5} = \frac{-7.2}{-1.5}$ $G = 4.8$

6. $\frac{-M}{-1} = \frac{4.3}{-1}$ $M = -4.3$

7. $\frac{K}{4} = 12$ $\cdot 4$ $\cdot 4$ $K = 48$

8. $\frac{2}{7}X = 6 \cdot \frac{7}{3}$ $\cdot \frac{7}{2}$ $X = \frac{42}{3} = 14$

9. $-\frac{1}{5}R = 35 \cdot -5$ $R = -175$

No bookwork!

IXL #3 - A.2 & I.2 (not an L) due Friday at 4pm!

Classwork: Practice Test for Chapter 1