3.2: Solve Two-Step Equations

Goals: *Solve two-step equations
*Solve equations by combining like terms first
*Set up two-step equations to model real-world situations

**TO SOLVE AN EQUATION WITH MORE THAN ONE STEP YOU:

Solve:

Ex: $\frac{x}{2} + 5 = 11$ **Ex:** $5x + 9 = 24$

Ex: $4y - 4 = 16$ **Ex:** $-1 = \frac{z}{3} - 7$

Combining like terms:

*Combine like terms first, then solve.

Ex: $7x - 4x = 21$ **Ex:** $4w + 2w = 24$

Ex: $8t - 3t = 35$ **Ex:** $-16 = 5d - 9d$

Ex: As a scuba diver descends into deeper waters, the pressure of the water on the scuba diver's body increases. The pressure at the surface of the water is 2117 pounds per square foot (lb/ft^2). The pressure increases at a rate of 64 pounds per square foot each foot the diver descends. Find the depth at which a diver experiences a pressure of 8517 lb/ft^2.

Ex: Kim has a job where she makes $8/hr plus tips. Yesterday Kim made $53, $13 of which were in tips. How many hours did she work?

Ex. You made loom bracelets which costs $0.75 each to make. You sell them for $1.50 each. You made 200 bracelets and sold 150 of them. What was the profit made?

Ex. You make 35 dog collars and anticipate selling all of them at a craft show. You spent $85 for materials and hope to make a profit of $90. How much should you charge for each collar?