**Two-Step Equations**

Ex. 1 - A **one-year** membership to Metro Gym costs **$460**. There is a ***fee*** of **$40** when you join, **and** the **rest is paid monthly**. Write and solve an equation to represent what you will pay monthly for the yearlong membership.

**Step(1): Identify what you are trying to find. This will be the *variable* in the equation.**

Let **“m”** represent the amount of money members pay per month

**Step(2): Identify information in the problem that can be used to help write an equation**

 **One-time joining fee: $40**

 **Fee charged for 1 year: (12) (m)**

 **Total cost for the year: $460**

**Step(3): Write the equation.**

 **fee plus 12 times monthly cost equals total**

 **$40 + 12 x m = $460**

**Step(4): Solve for monthly cost**

 **40 + 12m = 460**

 **– 40 – 40**

1. **+ 12m = 420 🡪** $\frac{12m}{12} = \frac{420}{12} \rightarrow m = 35$

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Ex. 2 – A dog sled driver **added more** gear to the sled, **doubling** its weight. This felt too heavy, so the driver **removed 20** pounds to reach the final weight of **180** pounds. Write and solve an equation to find the sled’s original weight.

**Step(1): Write an equation.**

Let **“w”** represent the original weight of the sled

 **2w – 20 = 180**

**Step(2): Solve the equation.**

 **2w – 20 = 180**

 **+ 20 +20**

 **2w + 0 = 200 🡪 2w = 200 🡪** $\frac{2w}{2} = \frac{200}{2} \rightarrow w = 100$