5.4 Solving Percent Problems Using Equations

**Learning Objectives:**
1. Translate percent problems to an equation: percent · base = amount
2. Solve percent equations.

1. **Writing Percent Problems as Equations**

   **Formula:**
   \[ a = pb \]
   where \( a \) = amount (number after the word “is”, \( p \) = percent and \( b \) = base (number after the word “of”)

   **Key words:**
   “of” means
   “is” means
   “what” means
   “p %” means

   **Example 1.** Translate to an equation. Use \( n \) to indicate the unknown. **Do not solve.**

   12% of 80 is what number?

2. **Solve Percent Equations**

   **Example 2.** Use equation to solve the following percent problems.

   1. What number is \( 15\frac{3}{4} \) % of 50?
2. 22.5% of what number is 2.7?