

# Solving Equations Review

Oct 25/13

An equation is like a balance, what you do to one side, you do to the other.

To solve an equation, get the variable (letter) by itself.

Solve for "x".

$$\begin{aligned} \text{a) } x + 7 &= 4 \\ x + 7 - 7 &= 4 - 7 \\ x &= -3 \end{aligned}$$

$$\begin{aligned} \text{b) } \frac{-21}{3} &= \frac{3x}{3} \\ -7 &= x \end{aligned}$$

$$\begin{aligned} \text{c) } \frac{x}{4} &= 6 \\ (4) \frac{x}{4} &= 6(4) \\ x &= 24 \end{aligned}$$

$$\begin{aligned} \text{d) } 4x - 3 &= 13 \\ 4x - 3 + 3 &= 13 + 3 \\ \frac{4x}{4} &= \frac{16}{4} \\ x &= 4 \end{aligned}$$

$$\begin{aligned} \text{e) } 8x + 4 &= 3x - 6 \\ 8x + 4 - 3x &= 3x - 6 - 3x \rightarrow \text{get variables on one side} \\ 5x + 4 &= -6 \\ 5x + 4 - 4 &= -6 - 4 \rightarrow \text{then solve} \\ \frac{5x}{5} &= \frac{-10}{5} \\ x &= -2 \end{aligned}$$

$$\begin{aligned} \text{f) } 3(x-4) + 2 &= 2(2x+3) \rightarrow \text{simplify first} \\ 3x - 12 + 2 &= 4x + 6 \rightarrow \text{collect like terms} \\ 3x - 10 &= 4x + 6 \rightarrow \text{then solve} \\ 3x - 10 - 4x &= 4x + 6 - 4x \\ -x - 10 &= 6 \\ -x - 10 + 10 &= 6 + 10 \\ \frac{-x}{-1} &= \frac{16}{-1} \\ x &= -16 \end{aligned}$$

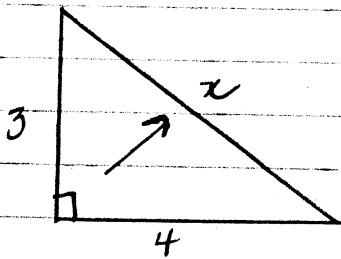
over  $\rightarrow$

# Solving Equations Review

Oct 26

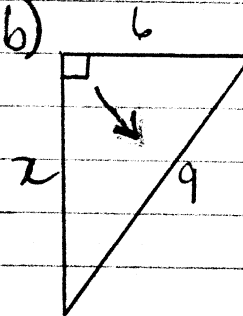
Find side "x"      Pythagorean Theorem  $\rightarrow h^2 = a^2 + b^2$

a)



$$\begin{aligned}h^2 &= a^2 + b^2 \\x^2 &= 3^2 + 4^2 \\x^2 &= 9 + 16 \\x^2 &= 25 \\x &= \sqrt{25} \\x &= 5\end{aligned}$$

b)



$$\begin{aligned}h^2 &= a^2 + b^2 \\9^2 &= x^2 + 6^2 \\9^2 - 6^2 &= x^2 + 6^2 - 6^2 \\81 - 36 &= x^2 \\45 &= x^2 \\\sqrt{45} &= x \\x &= 6.7\end{aligned}$$

Practice  
wkst: Solving  
Equations Practice  
Test  
Part A + Part B