

The distributive property

(ex)

$$\begin{aligned} & 5(3+4) \\ & 5 \cdot 3 + 5 \cdot 4 \\ & 15 + 20 \\ & \boxed{35} \end{aligned}$$

(ex)

$$\begin{aligned} & 3(2x + -6) \\ & 3(2x) + 3(-6) \\ & 6x + -18 \\ & \boxed{6x - 18} \end{aligned}$$

* when you have a variable inside parentheses, use the distributive property

$$\begin{aligned} & 2(-3x + 4) + -4(2x + -6) \\ & -6x + 8 + -8x + 24 \\ & \boxed{-14x + 32} \end{aligned}$$

distribute
combine like terms

Solve for x

$$\begin{aligned} 10 + -3(2x + -4) &= 17 \\ 10 + -6x + 12 &= 17 \\ -6x + 22 &= 17 \\ & \quad \quad \quad + -22 \quad + -22 \end{aligned}$$

distribute
combine like terms
solve

$$\begin{aligned} \left(\frac{-1}{6}\right) \frac{-6x}{1} &= \frac{-5}{1} \left(\frac{-1}{6}\right) \\ \boxed{x} &= \frac{5}{6} \end{aligned}$$