

## Solving Equations

Are there any fractions?

$$\frac{2}{3}(x+5) + 7 = \frac{1}{4}(x+5)$$

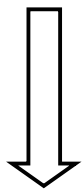
No

Yes

Clear all fractions by multiplying by the common denominator.

$$(12)\frac{2}{3}(x+5) + 7(12) = (12)\frac{1}{4}(x+5)$$

$$8(x+5) + 84 = 3(x+5)$$



Is the distributive property needed to remove parentheses?

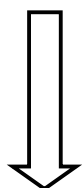
$$8(x+5) + 84 = 3(x+5)$$

No

Yes

Use the distributive property to clear parentheses

$$8x + 40 + 84 = 3x + 15$$



Are there like terms to combine on either side of the parentheses?

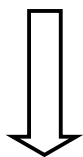
$$8x + 40 + 84 = 3x + 15$$

No

Yes

Combine like terms

$$8x + 124 = 3x + 15$$



Finalize the equation by getting the variable to one side and the numbers to the other (usually by division).

$$8x + 124 = 3x + 15$$

$$5x = -109$$

$$x = -\frac{109}{5}$$

Always divide using the sign of the coefficient.