Topic: Simple equations

Question: Solve for the variable.

$$x + 5 = 10$$

Answer choices:

A $x = 5$

B $x = 10$

C $x = 15$

D $x = 20$

Solution: A

We need to get x by itself on the left side. In order to do that, we'll subtract 5 from both sides to move the 5 to the right side.

$$x + 5 - 5 = 10 - 5$$

$$x + 0 = 5$$

$$x = 5$$

Topic: Simple equations

Question: Solve for the variable.

$$4x + 2 = 10$$

Answer choices:

A $x = 4$

B $x = 2$

C $x = 8$

D $x = 10$

Solution: B

We need to get x by itself on the left side. In order to do that, we'll subtract 2 from both sides to move the 2 to the right side.

$$4x + 2 - 2 = 10 - 2$$

$$4x + 0 = 8$$

$$4x = 8$$

To finish getting x by itself, we have to divide both sides by 4.

$$\frac{4x}{4} = \frac{8}{4}$$

$$1 \cdot x = 2$$

$$x = 2$$

Topic: Simple equations

Question: Solve for the variable.

$$-3x + 4 = 16$$

Answer choices:

A $x = 4$

B $x = -4$

C $x = 12$

D $x = 3$

Solution: B

We need to get x by itself on the left side. In order to do that, we'll subtract 4 from both sides to move the 4 to the right side.

$$-3x + 4 - 4 = 16 - 4$$

$$-3x + 0 = 12$$

$$-3x = 12$$

To finish getting x by itself, we have to divide both sides by -3.

$$\frac{-3x}{-3} = \frac{12}{-3}$$

$$1 \cdot x = -4$$

$$x = -4$$