

# ويكي العربية تقدم تمارين معادلات الدرجة الأولى

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20th April, 2022

## حل المعادلات من الدرجة الأولى التالية

**A.**  $2x - 4 = 10$

**B.**  $5x - 6 = 3x - 8$

**C.**  $\frac{3}{4}x + \frac{5}{6} = 5x - \frac{125}{3}$

**D.**  $7y + 5 - 3y + 1 = 2y + 2$

**E.**  $x + 5 = 3\sqrt{x + 10}$

**ملاحظة:** هناك معادلة وحيدة غير قابلة للحل يرجى ذكر السبب.

## الحل

**A.**  $2x - 4 = 10$

Solution

Keep Practicing &gt;

Show Steps



$$2x - 4 = 10 \quad : \quad x = 7$$

## Steps

$$2x - 4 = 10$$

Add 4 to both sides

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

Simplify

$$2x = 14$$

Divide both sides by 2

$$\frac{2x}{2} = \frac{14}{2}$$

Simplify

$$x = 7$$

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**B.**  $5x - 6 = 3x - 8$ 

Solution

Keep Practicing &gt;

Show Steps



$$5x - 6 = 3x - 8 \quad : \quad x = -1$$

**Steps**

$$5x - 6 = 3x - 8$$

Add 6 to both sides

$$5x - 6 + 6 = 3x - 8 + 6$$

Simplify

$$5x = 3x - 2$$

Subtract  $3x$  from both sides

$$5x - 3x = 3x - 2 - 3x$$

Simplify

$$2x = -2$$

Divide both sides by 2

$$\frac{2x}{2} = \frac{-2}{2}$$

Simplify

$$x = -1$$

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**C.**  $\frac{3}{4}x + \frac{5}{6} = 5x - \frac{125}{3}$  :  $x = 10$

Solution

Keep Practicing &gt;

Show Steps

$$\frac{3}{4}x + \frac{5}{6} = 5x - \frac{125}{3} \quad : \quad x = 10$$

Steps

$$\frac{3}{4}x + \frac{5}{6} = 5x - \frac{125}{3}$$

Subtract  $\frac{5}{6}$  from both sides

$$\frac{3}{4}x + \frac{5}{6} - \frac{5}{6} = 5x - \frac{125}{3} - \frac{5}{6}$$

Simplify

Show Steps +

$$\frac{3}{4}x = 5x - \frac{85}{2}$$

Subtract  $5x$  from both sides

$$\frac{3}{4}x - 5x = 5x - \frac{85}{2} - 5x$$

Simplify

Show Steps +

$$-\frac{17}{4}x = -\frac{85}{2}$$

Multiply both sides by 4

$$4\left(-\frac{17}{4}x\right) = 4\left(-\frac{85}{2}\right)$$

Simplify

Show Steps +

$$-17x = -170$$

Divide both sides by  $-17$ 

$$\frac{-17x}{-17} = \frac{-170}{-17}$$

Simplify

Show Steps +

$$x = 10$$

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**D.**  $7y + 5 - 3y + 1 = 2y + 2$

Solution

Keep Practicing &gt;

Show Steps



$$7y + 5 - 3y + 1 = 2y + 2 \quad : \quad y = -2$$

Steps

$$7y + 5 - 3y + 1 = 2y + 2$$

Group like terms

$$7y - 3y + 5 + 1 = 2y + 2$$

Add similar elements:  $7y - 3y = 4y$ 

$$4y + 5 + 1 = 2y + 2$$

Add the numbers:  $5 + 1 = 6$ 

$$4y + 6 = 2y + 2$$

Subtract 6 from both sides

$$4y + 6 - 6 = 2y + 2 - 6$$

Simplify

$$4y = 2y - 4$$

Subtract  $2y$  from both sides

$$4y - 2y = 2y - 4 - 2y$$

Simplify

$$2y = -4$$

Divide both sides by 2

$$\frac{2y}{2} = \frac{-4}{2}$$

Simplify

Show Steps +

$$y = -2$$

[click here to practice linear equations »](#)

**E.**  $\sqrt{x+5}=3\sqrt{x+10}$

Solution

Keep Practicing &gt;

Show Steps

$$\sqrt{x} + 5 = 3\sqrt{x} + 10 \quad : \quad \text{No Solution for } x \in \mathbb{R}$$

Steps

$$\sqrt{x} + 5 = 3\sqrt{x} + 10$$

Subtract 5 from both sides

$$\sqrt{x} + 5 - 5 = 3\sqrt{x} + 10 - 5$$

Simplify

$$\sqrt{x} = 3\sqrt{x} + 5$$

Subtract  $3\sqrt{x}$  from both sides

$$\sqrt{x} - 3\sqrt{x} = 3\sqrt{x} + 5 - 3\sqrt{x}$$

Simplify

$$-2\sqrt{x} = 5$$

Divide both sides by  $-2$ 

$$\frac{-2\sqrt{x}}{-2} = \frac{5}{-2}$$

Simplify

$$\sqrt{x} = -\frac{5}{2}$$

 $\sqrt{f(x)}$  cannot be negative for  $x \in \mathbb{R}$ No Solution for  $x \in \mathbb{R}$ [click here to practice radical equations »](#)

