



Benchmark Test - COGEDANUXE

Instructions: Complete each question by choosing or typing in the best answer. To receive the highest score, be sure to leave nothing blank. When you have completed the test, click the "Grade My Test Now" button at the end of the test. If you run out of time, click the "Save for Me to Complete Later" button. Tests are automatically saved in case of internet disruption.

- 1) Consider the sequence of steps to solve the equation:

$$5(x - 3) = \frac{7x}{2}$$

$$\text{Step 1} \Rightarrow 10(x - 3) = 7x$$

$$\text{Step 2} \Rightarrow 10x - 30 = 7x$$

$$\text{Step 3} \Rightarrow 3x - 30 = 0$$

$$\text{Step 4} \Rightarrow 3x = 30$$

$$\text{Step 5} \Rightarrow x = 10$$

Identify the property of equality which yields Step 4.

- A) Division Property
- B) Addition Property
- C) Subtraction Property
- D) Multiplication Property

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- 2) If $5 + Y = 12$, and you add -5 to the left side of equation, what should you add to right side of equation?

- A) -7
- B) -5
- C) 5
- D) 7

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- 3) Which equation has solution $x = -3$?

- A) $2x - 7 = -1$
- B) $3x + 8 = 1$
- C) $\frac{1}{2}x + 8 = 10$
- D) $\frac{1}{2}(2x - 6) = -6$

4)



$$2(x + 7) + 3x = 12$$

What is the first step in solving this equation for x ?

- A) $2x + 14 + 3x = 12$
- B) $2x + 7 + 3x = 12$
- C) $2x + 14 = 9$
- D) $5x = -2$

5)

Solve for x .

$$-3x + 4 = -8$$

- A) $x = 4$
- B) $x = -4$
- C) No Solution
- D) $x = -\frac{4}{3}$

6)



$$7x + 3x + 4 = 24 \text{ (Given)}$$

$$10x + 4 = 24 \text{ (Simplify)}$$

$$10x = 20 \text{ (?)}$$

$$x = 2 \text{ (Division)}$$

What is the missing reason for the argument shown?

- A) addition
- B) division
- C) subtraction
- D) multiplication

7)

Solve.

$$2x - 1 = 7$$

- A) $x = 2$
- B) $x = 3$

C) $x = 4$

D) $x = 5$

8)  Solve:


$$-4x = -20$$

A) -16

B) -5

C) 5

D) 6

9)  What is the value of x when $x + 7 = 21$?

A) -28

B) -14

C) 3

D) 14

10)  Solve.

$$\frac{x+3}{5} = 2$$

A) -5

B) -3

C) 7

D) 13

11)  Solve for x .


$$-\frac{1}{2}(x+5) = -10$$

A) -25

B) -10

C) 0

D) 15

- 12)  Consider the sequence of steps to solve the equation:

$$5(x - 3) = \frac{7x}{2}$$

$$\text{Step 1} \Rightarrow 10(x - 3) = 7x$$

$$\text{Step 2} \Rightarrow 10x - 30 = 7x$$


$$\text{Step 3} \Rightarrow 3x - 30 = 0$$

$$\text{Step 4} \Rightarrow 3x = 30$$

$$\text{Step 5} \Rightarrow x = 10$$

Identify the property of equality which yields Step 3.

- A) Division Property
- B) Addition Property
- C) Subtraction Property
- D) Multiplication Property

- 13)  Consider the sequence of steps to solve the equation:

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

$$\text{Step 1} \Rightarrow x - 3 = 3(x + 3)$$

$$\text{Step 2} \Rightarrow x - 3 = 3x + 9$$

$$\text{Step 3} \Rightarrow x = 3x + 12$$

$$\text{Step 4} \Rightarrow -2x = 12$$

$$\text{Step 5} \Rightarrow x = -6$$

Identify the property of equality which yields Step 4.

- A) Division Property
- B) Addition Property
- C) Subtraction Property
- D) Multiplication Property

- 14)  Solve for x:

$$4 + 2(x + 3x) = 4 - x(2 - 3) + 2x$$

- A) 0
- B) 1
- C) 2
- D) 3

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