1. State the operations used to solve the following equation.

## 2x + 8 = 9

A. Add 8 to both sides, multiply by 2 on both sides.

- B. Subtract 8 from both sides, divide by 2 on both sides.
- C. Divide by 2 on both sides, subtract 8 from both sides.
- D. Subtract 10 from both sides, divide by 10 on both sides.

2. Which of the following represents a correct procedure for solving each given equation?

A. 
$$-2(x-5) = -12$$
B.  $8(x-5) = 24$  $-2x - 10 = -12$  $8x - 40 = 24$  $-2x = -2$  $8x = -16$  $x = 1$  $x = -2$ C.  $5 - 2x = 8x + 25$ D.  $7x - 12 = -2x + 15$  $5 = -10x + 25$  $9x - 12 = 15$  $30 = 10x$  $9x = 27$  $3 = x$  $x = 3$ 

3. Which of the following is a correct procedure for solving the equation below?

$$2(x-6) - 12 = -3(x+5)$$
A. 
$$2(x-6) - 12 = -3(x+5)$$

$$2x - 6 - 12 = -3x + 5$$

$$2x - 18 = -3x + 5$$

$$5x - 18 = 5$$

$$5x = 23$$

$$x = \frac{23}{5}$$
C. 
$$2(x-6) - 12 = -3(x+5)$$

$$2x - 12 - 12 = -3x - 15$$

$$2x - 24 = -3x - 15$$

$$5x - 24 = -15$$

$$5x = -39$$

$$x = \frac{39}{5}$$

B. 
$$2(x-6) - 12 = -3(x+5)$$
  
 $2x - 12 - 12 = -3x + 15$   
 $2x = -3x + 15$   
 $5x = 15$   
 $x = 3$   
D.  $2(x-6) - 12 = -3(x+5)$   
 $2x - 12 - 12 = -3x - 15$   
 $2x - 24 = -3x - 15$   
 $5x - 24 = -15$   
 $5x = 9$   
 $x = \frac{9}{5}$ 

Solve: 3(x+5) = 2x + 354. Step 1: 3x + 15 = 2x + 35Step 2: 5x + 15 = 35Step 3: 5x = 20x = 4Step 4: Which is the first *incorrect* step in the solution shown above? A. Step 1 Β. Step 2 C. Step 3 D. Step 4

Kelly solved the inequality given below using the steps shown. 5. Given: 3(x-4) - 4 < 1Step 1: 3x - 12 - 4 < 13x - 16 < 1Step 2: Step 3: 3x < -15Step 4: x < -5Which step contains Kelly's first mistake? А. Step 1 B. Step 2 C. Step 3 D. Step 4

6.	Solve: $4(6x - 10) = 8x + 40$			
	A. 0	B. $\frac{5}{2}$	C. $\frac{25}{8}$	D. 5

7. Look at the equation. <sup>n</sup>/<sub>9</sub> + 10.36 = 25.36 What is the value of *n*? A. 15 B. 135 C. 218.88 D. 321.48

8. What is the solution to the equation below? 3(x-4) = 5x - 6A. x = -3 B.  $x = \frac{3}{4}$  C. x = 1 D. x = 9 9. What is the solution to the equation below?  $\frac{x}{4} = \frac{x+1}{3}$ A. x = -4B. x = -1C.  $x = \frac{1}{7}$ D.  $x = \frac{4}{7}$ 

10. What value of x makes the equation below true?
\$\frac{x}{9} + 6 = 8\$
A. 2
B. 18
C. 66
D. 126

## 11. Solve: $\frac{5}{4}n + 5 = 20$



13. What is the value of x in the equation  $3x = \frac{4x-6}{2}$ ?



15. Solve for *x*:  $\frac{2}{3}x + 9 < 18$ 

16. What is the solution to the inequality below?  $8x-2 \ge 6x+28$ A.  $x \ge 1\frac{6}{7}$  B.  $x \ge 2\frac{1}{7}$  C.  $x \ge 13$  D.  $x \ge 15$ 

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1. Answer:	В
2. Answer:	D
3. Answer:	D
4. Answer:	В
5. Answer:	С
6. Answer:	D
7. Answer:	В
8. Answer:	А
9. Answer:	А
10. Answer:	В
11. Answer:	
12. Answer:	
13. Answer:	-3
14. Answer:	В
15. Answer:	
16. Answer:	D

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