

Algebra: Solving Two-Step Linear Equations



Name: _____ Date: _____

Part A: Solve each linear equation. Show algebraic inverse operations and select the correct solution.

1. Solve for x in the equation: $4x - 17 = 35$

- A. $x = 4.5$
- B. $x = 13$
- C. $x = 9$
- D. $x = 15$

2. An equipment rental company charges a fixed reservation fee of \$25 plus \$18 per hour of use. If Liam's total rental invoice was \$115, which equation models this scenario, and how many hours h did Liam use the equipment?

- A. $25h + 18 = 115$; $h = 3.88$ hours
- B. $18h + 25 = 115$; $h = 5$ hours
- C. $18h - 25 = 115$; $h = 7.7$ hours
- D. $115h + 25 = 18$; $h = 2$ hours

3. Solve the fractional linear equation: $(y / 3) + 8 = 14$

- A. $y = 18$
- B. $y = 66$
- C. $y = 2$
- D. $y = 14$

Part B: Step-by-Step Inverse Operation Fluency. Fill in the missing numerical value for each algebraic transformation.

Word bank: 8, 7, 24, -5, 30

1. For $5x + 15 = 55$, subtracting 15 gives $5x = 40$; then dividing by 5 yields $x =$ _____ as the exact solution.

2. In the equation $3(k - 2) = 15$, distributing gives $3k - 6 = 15$; adding 6 gives $3k = 21$, so $k =$ _____ is the single root.

3. Solving $(w / 4) - 2 = 4$, first add 2 to both sides to get $w / 4 = 6$; multiplying by 4 results in $w =$ _____.

4. When solving $-2m + 10 = 20$, subtract 10 to obtain $-2m = 10$; dividing by -2 gives $m =$ _____.