Math 7 Unit 6 worksheet: Two-step equations

Name _____ Date _____ Period _____

1. Solve each equation. Check your answer in the original equation.

(a) $-7x + 4 = 39$ (b) $15 = 3 - 4m$ (c) $-2 = 16 + 3n$ (d) $9b + 20 = -16$ (e) $-8 - k = -21$

(f) $-10 = 6 - \frac{w}{2}$

2. Solve each equation. Clear the fractions or decimals first if you like. Check your answer.

(a) $-\frac{3}{4}x - 2 = 7$ (b) $\frac{2}{5} = 2 + \frac{t}{5}$ (c) $-0.6y + 1.8 = -3$ (d) $2.5 - 0.25c = 4$

(e) $\frac{3}{2}r + \frac{5}{6} = -\frac{2}{3}$

3. The sum of 21 and -4 times a number is 49. Write an equation and solve it to find the number.

4. For each equation, undo the constant term only. From the signs of what is left, say whether the solution is positive or negative, and why. Then finish solving.

(a) $-6x + 11 = 35$ (b) $20 - 3x = 2$
(c) $\frac{x}{4} + 9 = 5$

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5. Each part gives the two moves that solve a two-step equation, in the order they are done, and the solution. Write the equation, in the form $px + q = r$.

(a) Add 9 to both sides, then divide both sides by -4. The solution is $x = 3$.

(b) Subtract 6 from both sides, then multiply both sides by -2. The solution is $x = -10$.

6. A floor-cleaning robot rolls along a long, straight corridor. Positions are measured in meters from its charging dock: positive to the right of the dock, negative to the left. The robot starts at 11 m and rolls left at a steady speed. After 4 minutes it is at -9 m. Write an equation and solve it to find the robot's speed.

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