

Solving Multi-Step Equations

Distributive With Parentheses - Negative Coefficients

Name: _____ Date: _____



Solve the equations.

$$(1) \quad 2x - 4(-2x + 21) = -194$$

$$(2) \quad -108 = 4x + 4(-5x + 21)$$

$$(3) \quad -6x + 3(-5x + 4) = -114$$

$$(4) \quad 5x - 4(5x - 12) = 168$$

$$(5) \quad 157 = 7x - 2(-5x - 19)$$

$$(6) \quad -212 = -4x + 2(-5x - 22)$$

$$(7) \quad -135 = 6x - 5(-5x - 4)$$

$$(8) \quad 123 = 7x + 4(2x - 3)$$

$$(9) \quad -6x - 4(-x - 2) = -14$$

$$(10) \quad -36 = -2x - 4(-x + 14)$$

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ANSWER KEY



Solve the equations.

$$(1) \quad 2x - 4(-2x + 21) = -194$$

$$2x + 8x - 84 = -194$$

$$10x - 84 = -194$$

$$10x = -110$$

$$x = -11$$

$$(3) \quad -6x + 3(-5x + 4) = -114$$

$$-6x - 15x + 12 = -114$$

$$-21x + 12 = -114$$

$$-21x = -126$$

$$x = 6$$

$$(5) \quad 157 = 7x - 2(-5x - 19)$$

$$157 = 7x + 10x + 38$$

$$157 = 17x + 38$$

$$119 = 17x$$

$$7 = x$$

$$(7) \quad -135 = 6x - 5(-5x - 4)$$

$$-135 = 6x + 25x + 20$$

$$-135 = 31x + 20$$

$$-155 = 31x$$

$$-5 = x$$

$$(9) \quad -6x - 4(-x - 2) = -14$$

$$-6x + 4x + 8 = -14$$

$$-2x + 8 = -14$$

$$-2x = -22$$

$$x = 11$$

$$(2) \quad -108 = 4x + 4(-5x + 21)$$

$$-108 = 4x - 20x + 84$$

$$-108 = -16x + 84$$

$$-192 = -16x$$

$$12 = x$$

$$(4) \quad 5x - 4(5x - 12) = 168$$

$$5x - 20x + 48 = 168$$

$$-15x + 48 = 168$$

$$-15x = 120$$

$$x = -8$$

$$(6) \quad -212 = -4x + 2(-5x - 22)$$

$$-212 = -4x - 10x - 44$$

$$-212 = -14x - 44$$

$$-168 = -14x$$

$$12 = x$$

$$(8) \quad 123 = 7x + 4(2x - 3)$$

$$123 = 7x + 8x - 12$$

$$123 = 15x - 12$$

$$135 = 15x$$

$$9 = x$$

$$(10) \quad -36 = -2x - 4(-x + 14)$$

$$-36 = -2x + 4x - 56$$

$$-36 = 2x - 56$$

$$20 = 2x$$

$$10 = x$$