Solving Multi-Step Equations

Variables on Both Sides - Negative Coefficients

Name: _____ **Date:** _____

Solve the equations.

(1) $^{-}155 - x = 61 - 9x$

(2) $9x - 116 = 14x + 39$

(3) $9x - 196 = 108 - 10x$

(4) $^{-}152 + 15x = 196 + 3x$

(5) $^{-}25 + 8x = 5x + 47$

(6) $-x - 130 = 9x + 70$

(7) $^{-}6x - 13 = {}^{-}7x + 18$

(8) $^{-}8x - 118 = {}^{-}2x + 74$

(9) $^{-}14x - 68 = 94 - 5x$

(10) $^{-}106 + 8x = {}^{-}3x + 125$

(11) $^{-}10x - 84 = {}^{-}5x + 61$

(12) $10x - 198 = -x + 55$

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ANSWER KEY

Solve the equations.

(1) $^-155 - x = 61 - 9x$

$^-155 + 8x = 61$

$8x = 216$

$x = 27$

(2) $9x - 116 = 14x + 39$

$^-116 - 5x = 39$

$^-5x = 155$

$x = ^-31$

(3) $9x - 196 = 108 - 10x$

$^-196 + 19x = 108$

$19x = 304$

$x = 16$

(4) $^-152 + 15x = 196 + 3x$

$^-152 + 12x = 196$

$12x = 348$

$x = 29$

(5) $^-25 + 8x = 5x + 47$

$^-25 + 3x = 47$

$3x = 72$

$x = 24$

(6) $-x - 130 = 9x + 70$

$^-130 - 10x = 70$

$^-10x = 200$

$x = ^-20$

(7) $^-6x - 13 = ^-7x + 18$

$^-13 + x = 18$

$x = 31$

(8) $^-8x - 118 = ^-2x + 74$

$^-118 - 6x = 74$

$^-6x = 192$

$x = ^-32$

(9) $^-14x - 68 = 94 - 5x$

$^-68 - 9x = 94$

$^-9x = 162$

$x = ^-18$

(10) $^-106 + 8x = ^-3x + 125$

$^-106 + 11x = 125$

$11x = 231$

$x = 21$

(11) $^-10x - 84 = ^-5x + 61$

$^-84 - 5x = 61$

$^-5x = 145$

$x = ^-29$

(12) $10x - 198 = -x + 55$

$^-198 + 11x = 55$

$11x = 253$

$x = 23$

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