Solving Multi-Step Equations
Distributive With Parentheses - Negative Coefficients

Name: _____   **Date:** _____

👉 Solve the equations.

(1) $2x - 2(3x + 4) = 12$

(2) $7x - 4(x - 4) = {}^-8$

(3) ${}^-22 = 6x - 2(2x + 2)$

(4) $4x + 5(-x - 4) = {}^-15$

(5) ${}^-5x - 4({}^-2x - 2) = {}^-28$

(6) $4 = 2x + 6(-x - 4)$

(7) $6x - 2(x + 3) = {}^-30$

(8) $33 = 2x + 5({}^-2x - 3)$

(9) ${}^-7x + 4(2x + 2) = 20$

(10) $4x - 3(3x - 3) = {}^-21$

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ANSWER KEY

👉 Solve the equations.

(1) $2x - 2(3x + 4) = 12$
$2x - 6x - 8 = 12$
$^-4x - 8 = 12$
$^-4x = 20$
$x = ^-5$

(2) $7x - 4(x - 4) = ^-8$
$7x - 4x + 16 = ^-8$
$3x + 16 = ^-8$
$3x = ^-24$
$x = ^-8$

(3) $^-22 = 6x - 2(2x + 2)$
$^-22 = 6x - 4x - 4$
$^-22 = 2x - 4$
$^-18 = 2x$
$^-9 = x$

(4) $4x + 5(-x - 4) = ^-15$
$4x - 5x - 20 = ^-15$
$-x - 20 = ^-15$
$-x = 5$
$x = ^-5$

(5) $^-5x - 4(^-2x - 2) = ^-28$
$^-5x + 8x + 8 = ^-28$
$3x + 8 = ^-28$
$3x = ^-36$
$x = ^-12$

(6) $4 = 2x + 6(-x - 4)$
$4 = 2x - 6x - 24$
$4 = ^-4x - 24$
$28 = ^-4x$
$^-7 = x$

(7) $6x - 2(x + 3) = ^-30$
$6x - 2x - 6 = ^-30$
$4x - 6 = ^-30$
$4x = ^-24$
$x = ^-6$

(8) $33 = 2x + 5(^-2x - 3)$
$33 = 2x - 10x - 15$
$33 = ^-8x - 15$
$48 = ^-8x$
$^-6 = x$

(9) $^-7x + 4(2x + 2) = 20$
$^-7x + 8x + 8 = 20$
$x + 8 = 20$
$x = 12$
$x = 12$

(10) $4x - 3(3x - 3) = ^-21$
$4x - 9x + 9 = ^-21$
$^-5x + 9 = ^-21$
$^-5x = ^-30$
$x = 6$