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* set the equation = 0

36) $x(x-2) = 35$

$x^2 - 2x = 35$
 $-35 \quad -35$

$x^2 - 2x - 35 = 0$ ← factor trinomial

$(x-7)(x+5) = 0$

$x = 7 \quad | \quad x = -5$

CROSS multiply

$\frac{x+2}{2} = \frac{12}{x}$

$2(12) = x(x+2)$

$24 = x^2 + 2x$
 $-24 \quad -24$

$0 = x^2 + 2x - 24$ ← factor trinomial

$0 = (x-4)(x+6)$

$x = 4 \quad | \quad x = -6$

43) $\frac{-4x}{x-3} = \frac{x-1}{2}$

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

$x(x-1) - 3(x-1) = -8x$

$x^2 - 1x - 3x + 3 = -8x$

$x^2 - 4x + 3 = -8x$

$+8x \quad +8x$

$x^2 + 4x + 3 = 0$

$(x+3)(x+1) = 0$

$x = -3 \quad | \quad x = -1$

49) $A = LW$

$A = 240$
 $2x+4$

$240 = x(2x+4)$

$240 = 2x^2 + 4x$

$240 \quad -240$

$0 = 2x^2 + 4x - 240$

$0 = 2(x^2 + 2x - 120)$

$0 = 2(x-10)(x+12)$

$0 \neq 2 \quad | \quad x = 10 \quad | \quad x = -12$

reject

length = $2(10) + 4$
 $= 24 \text{ ft}$

width = 10 ft

$0 = 2x^2 + 4x - 240$

	x	-10
2x	2x ²	-20x
+24	+24x	-240

$(x-10)(2x+24) = 0$

$x = 10$

$2x+24 = 0$
 $-24 \quad -24$

reject $x = -12$

Can't have neg. length

~~$\frac{-480}{-20} = 24$
 $\frac{-480}{4}$~~