Hw: Factoring Quadratic Eq.

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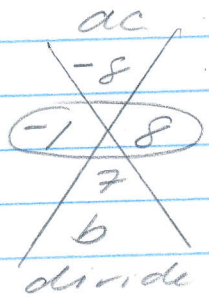
1.) $2x^2 + 7x - 4 = 0$ (a, b, c)



divide by "a"

$(x - \frac{1}{2})(x + \frac{8}{2}) = 0$

bottom up

$(2x - 1)(x + 4) = 0$

$2x - 1 = 0$	$x + 4 = 0$
$+1 \quad +1$	$-4 \quad -4$
$\frac{2x}{2} = \frac{1}{2}$	$x = -4$

$x = \frac{1}{2}$ $x = \{\frac{1}{2}, -4\}$

2.) $x^2 + 3x - 18 = 0$

$(x + 6)(x - 3) = 0$

$x + 6 = 0$	$x - 3 = 0$
$-6 \quad -6$	$+3 \quad +3$
$x = -6$	$x = 3$

The zeros are -6 & 3

3.) $x^2 - 10x + 24 = 0$

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

$x - 6 = 0$	$x - 4 = 0$
$+6 \quad +6$	$+4 \quad +4$
$x = 6$	$x = 4$

$x = \{6, 4\}$

4.) $x^2 + 8x + 15 = 0$

$(x + 3)(x + 5) = 0$

$x + 3 = 0$	$x + 5 = 0$
$-3 \quad -3$	$-5 \quad -5$
$x = -3$	$x = -5$

The zeros are: $\{-3, -5\}$

5) $3x^2-16x-12=0$

$(x+\frac{2}{3})(x-\frac{18}{3})=0$ (bottoms up)

$(3x+2)(x-6)=0$

$3x+2=0$	$x-6=0$
$-2\ \ -2$	$+6\ +6$
$\frac{3x}{3}=\frac{-2}{3}$	$x=6$

a: -36; $2 \cdot -18$; -16; divide by a

The roots are: $\{-\frac{2}{3}, 6\}$

6) $6x^2-13x+6=0$

$(x-\frac{9}{6})(x-\frac{4}{4})=0$ (simplify)

$(x-\frac{3}{2})(x-\frac{2}{3})=0$ (bottoms up)

$(2x-3)(3x-2)=0$

$2x-3=0$	$3x-2=0$
$+3\ +3$	$+2\ +2$
$\frac{2x}{2}=\frac{3}{2}$	$\frac{3x}{3}=\frac{2}{3}$

36; $-9 \cdot -4$; -13; divide by "a"

$x=\{\frac{3}{2}, \frac{2}{3}\}$

7) $7x^2-14x=-7$

$+7\ \ +7$

gcf $7x^2-14x+7=0$

$7(x^2-2x+1)=0$

$7(x-1)(x-1)=0$

$7\neq 0$	$x+1=0$	$x+1=0$
	$+1\ +1$	$+1\ +1$
	$x=1$	$x=1$

The roots are $\{1\}$

8) $x^2+7x+15=5$

$-5\ \ -5$

$x^2+7x+10=0$

$(x+2)(x+5)=0$

$x+2=0$	$x+5=0$
$-2\ -2$	$-5\ -5$
$x=-2$	$x=-5$

$x=\{-2, -5\}$