

$$\begin{aligned}x &= -1 & x &= -2 \\ & +1 & & +2 \\ x+1 &= 0 & x+2 &= 0 \\ \underline{(x+1)} & \underline{(x+2)}\end{aligned}$$

$$x^2 + 3x + 2$$

$$y\text{-int} = 2$$

$$\begin{aligned}x &= -5 & x &= 8 \\ x+5 &= 0 & x-8 &= 0 \\ \underline{(x+5)} & \underline{(x-8)}\end{aligned}$$

$$x^2 - 8x + 5x - 40$$

$$x^2 - 3x - 40$$

$$y\text{-int} = -40$$

$$\begin{aligned}x &= -5 & x &= 7 \\ x+5 &= 0 & x-7 &= 0 \\ \underline{(x+5)} & \underline{(x-7)}\end{aligned}$$

$$x^2 - 7x + 5x - 35$$

$$x^2 - 2x - 35$$

$$y\text{-int} = -35$$

Solving Quadratic Equations by Factoring

Date _____ Period _____

Solve each equation by factoring.

1) $(k+1)(k-5)=0$

2) $(a+1)(a+2)=0$

3) $(4k+5)(k+1)=0$

4) $(2m+3)(4m+3)=0$

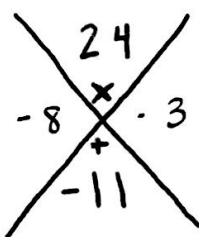
5) $x^2 - 11x + 19 = -5$
 $\quad \quad \quad +5 \quad +5$

$x^2 - 11x + 24 = 0$

$(x - 8)(x - 3)$

$x - 8 = 0 \quad x - 3 = 0$

$x = 8 \quad x = 3$



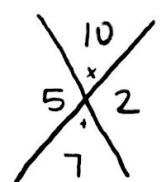
6) $n^2 + 7n + 15 = 5$
 $\quad \quad \quad -5 \quad -5$

$n^2 + 7n + 10$

$(n + 5)(n + 2)$

$n + 5 = 0 \quad n + 2 = 0$

$x = -5 \quad x = -2$



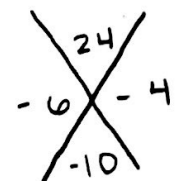
7) $n^2 - 10n + 22 = -2$
 $\quad \quad \quad +2 \quad +2$

$n^2 - 10n + 24$

$(n - 6)(n - 4)$

$n - 6 = 0 \quad n - 4 = 0$

$n = 6 \quad n = 4$



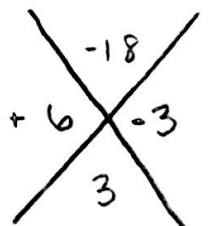
8) $n^2 + 3n - 12 = 6$
 $\quad \quad \quad -6 \quad +6$

$n^2 + 3n - 18$

$(n + 6)(n - 3)$

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

$n = -6 \quad n = +3$



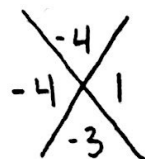
9) $6n^2 - 18n - 18 = 6$
 $\quad \quad \quad -6 \quad -6$

$6n^2 - 18n - 24$

$\frac{6n^2 - 18n - 24}{6}$

$n^2 - 3n - 4$

$6(n - 4)(n + 1)$



10) $7r^2 - 14r = -7$