Starter:

1. $x^2 - 16$

$(x + 4)(x - 4)$

2. $3x^2 - 27$

$3(x^2 - 9) = 3(x+3)(x-3)$

3. $4n^2 - 22n + 24$

$\frac{}{2} \quad \frac{}{2} \quad \frac{}{2}$

$2(2n^2 - 11n + 12)$

24

-3×-8

-11

$2(2n - 3)(\frac{2n}{2} - \frac{8}{2})$

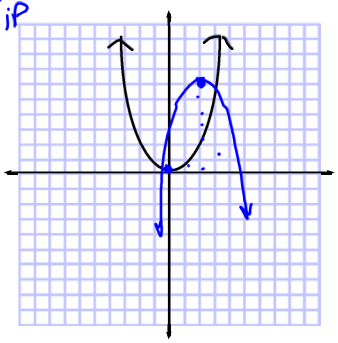
$2(2n-3)(n-4)$

Calendar Math

Given the equation, graph the transformation

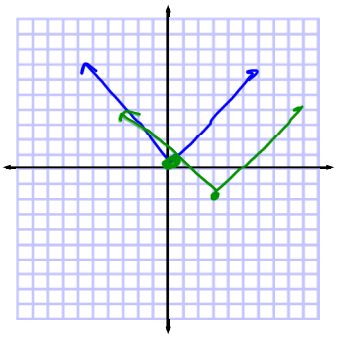
Ex 1: $y = -(x - 2)^2 + 6$

2 units right
6 units up
- flip



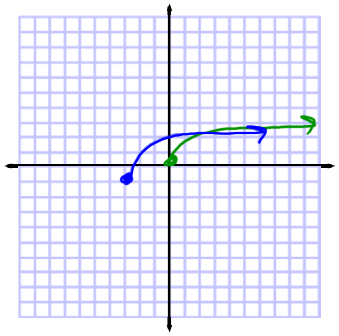
Parent graph

Ex 2: $y = |x - 3| - 2$



3 units right
2 units down

Ex 3: $y = \sqrt{x + 3} - 1$



3 units left
-1 unit down

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Solve by factoring 1.5

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

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

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

$(3x - 5)(2x + 3) = 0$

$3x - 5 = 0$
$+5 \quad +5$
$\frac{3x}{3} = \frac{5}{3}$
$x = \frac{5}{3}$

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

1. $r^2 + 4r - 12 = 0$

$(r+6)(r-2)=0$

$r+6=0$ $\quad r-2=0$

$-6\ -6$ $\quad +2\ +2$

$r=-6$ $\quad r=2$

-12

$6 \quad -2$

4

5. $x^2 + 48 = -14x$

$+14x \quad +14x$

$x^2 + 14x + 48 = 0$

$(x + 6)(x + 8) = 0$

48
6 8
14

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

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

7. $2r^2 + 2r - 7 = -3r + r^2 - 1$

$-r^2 + 3r + 1 \quad +3r - r^2 + 1$

$r^2 + 5r - 6 = 0$

$(r - 1)(r + 6) = 0$

-6, -1×6, 5

$r - 1 = 0 \quad r + 6 = 0$

$+1 \quad +1 \quad -6 \quad -6$

$r = 1 \quad r = -6$

Sep 8-7:36 AM

9. $\frac{7n^2}{n} - \frac{2n}{n} = 0$

$n(7n-2)=0$

$n=0$

$7n-2=0$

$+2 \quad +2$

$7n=2$

$\frac{7n}{7} = \frac{2}{7}$

$n=\frac{2}{7}$

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11. $15k^2 + 28k + 4 = -8$

$+8 \quad +8$

$15k^2 + 28k + 12 = 0$

$(15k + 18)(15k + 10)$

$(5k+6)(3k+2)=0$

180

18 10

28

$5k+6=0$

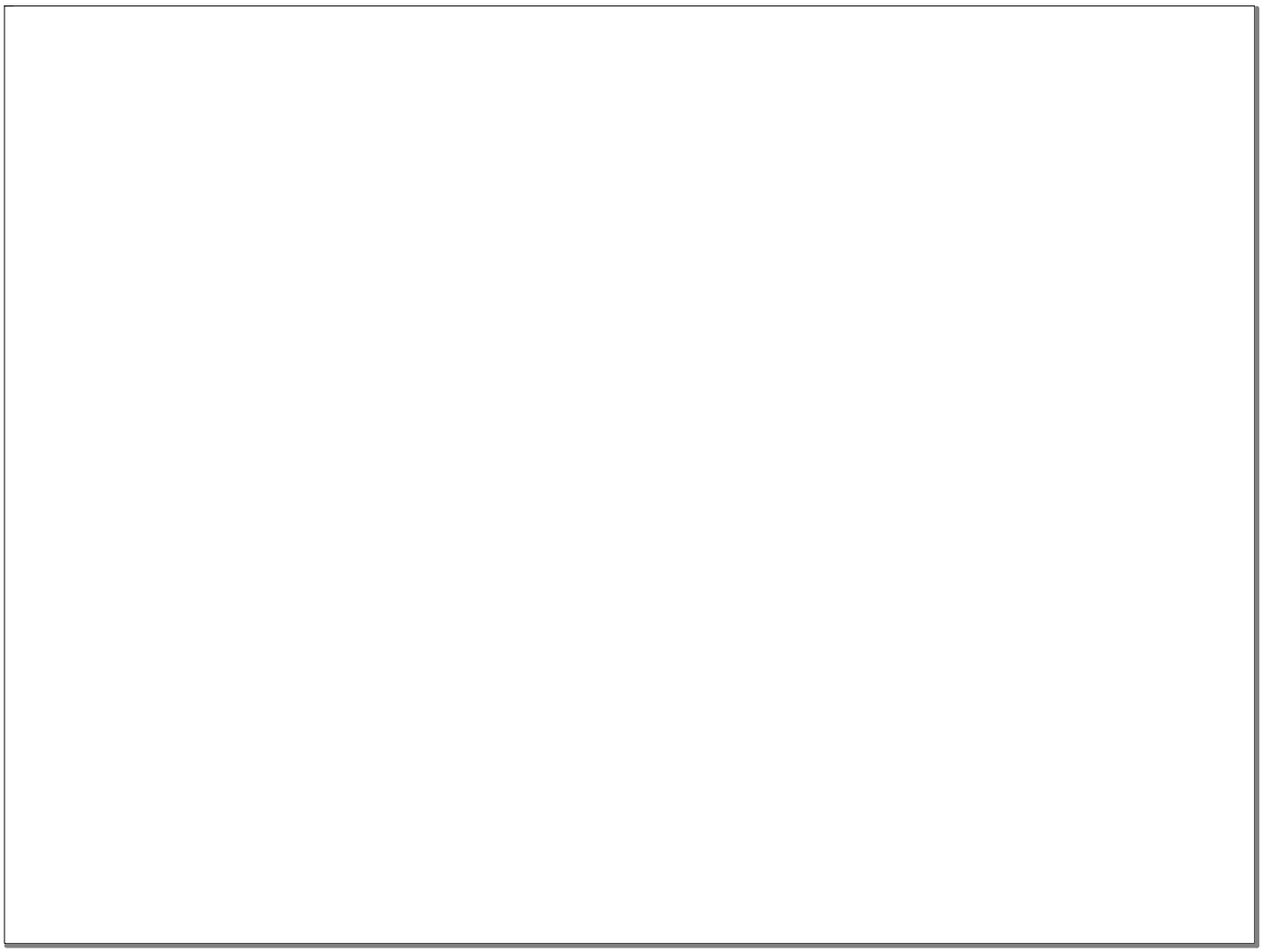
$-6 \quad -6$

$\frac{5k}{5} = \frac{-6}{5}$

$k = \frac{-6}{5}$

$3k+2=0$

$-2 \quad -2$

$\frac{3k}{3} = \frac{-2}{3}$

$k = \frac{-2}{3}$