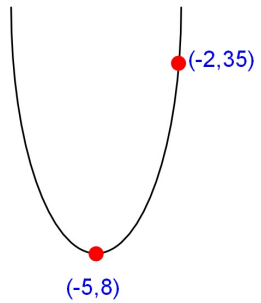
Write the equation of this parabola:



$y = a(x-h)^2 + k$

$y = 3(x+5)^2 + 8$

$35 = a(-2+5)^2 + 8$

$35 = 9a + 8$

$3 = a$

Find all solutions by factoring.

1. $6x^2 + x - 12 = 0$

	$2x$	3
$3x$	$6x^2$	$9x$
-4	$-8x$	-12

$2x+3=0$ $\quad 3x-4=0$

$x = -\frac{3}{2}, \frac{4}{3}$

2. $3x^5 - 3x^3 - 60x = 0$

$3x(x^4 - x^2 - 20)$

$3x(x^2-5)(x^2+4)$

$\sqrt{x^2} = \sqrt{5} \quad \sqrt{x^2} = \sqrt{-4}$

$x = \pm\sqrt{5} \quad x = \pm 2i$

$x = 0, \pm\sqrt{5}, \pm 2i$

Find all solutions using square roots.

1. $3x^2 + 61 = 7$

$-61 \quad -61$

$\frac{3x^2 = -54}{3}$

$\sqrt{x^2} = \sqrt{-18}$

$x = \pm 3i\sqrt{2}$

2. $2(x+6)^2 - 8 = 154$