The Quadratic Formula - Answers

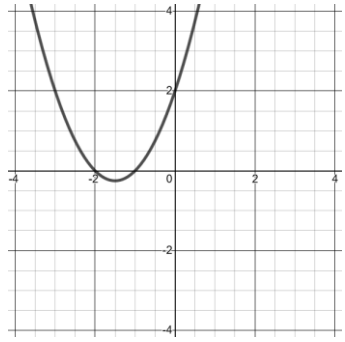
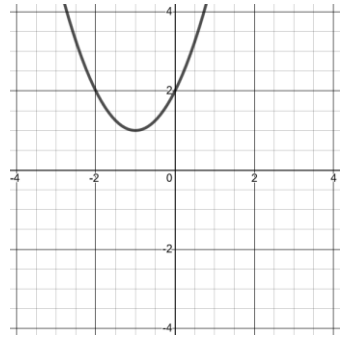
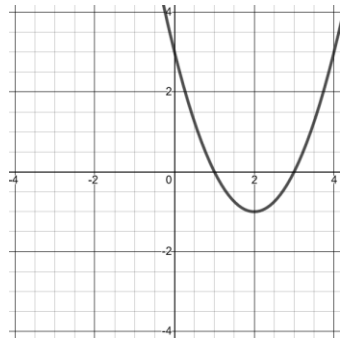
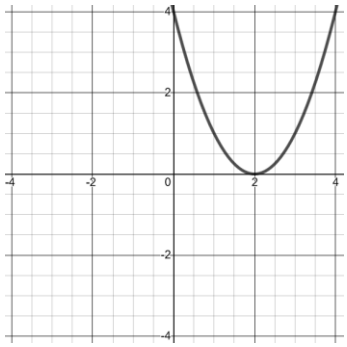
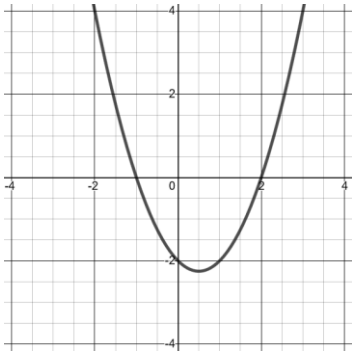
A general quadratic equation: $ax^2 + bx + c = 0$

The quadratic formula: $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$

Fill in the blanks below:

Equation	Quadratic formula	Simplified	Solutions (2dp)
$x^2 + 4x + 2 = 0$	$\frac{-(4) \pm \sqrt{(4)^2 - 4(1)(2)}}{2(1)}$	$x = \frac{-4 \pm \sqrt{8}}{2}$	$x = -0.59$ and $x = -3.41$
$x^2 - 5x + 3 = 0$	$\frac{-(-5) \pm \sqrt{(-5)^2 - 4(1)(3)}}{2(1)}$	$x = \frac{5 \pm \sqrt{13}}{2}$	$x = 4.30$ and $x = 0.70$
$x^2 + x - 3 = 0$	$\frac{-(1) \pm \sqrt{(1)^2 - 4(1)(-3)}}{2(1)}$	$x = \frac{-1 \pm \sqrt{13}}{2}$	$x = 1.30$ and $x = -2.30$
$2x^2 + 7x + 1 = 0$	$\frac{-(7) \pm \sqrt{(7)^2 - 4(2)(1)}}{2(2)}$	$x = \frac{-7 \pm \sqrt{41}}{4}$	$x = -0.15$ and $x = -3.35$
$3x^2 - 5x - 4 = 0$	$\frac{-(-5) \pm \sqrt{(-5)^2 - 4(3)(-4)}}{2(3)}$	$x = \frac{5 \pm \sqrt{73}}{6}$	$x = 2.26$ and $x = -0.59$
$x^2 + 3x + 1 = 0$	$\frac{-(3) \pm \sqrt{(3)^2 - 4(1)(1)}}{2(1)}$	$x = \frac{-3 \pm \sqrt{5}}{2}$	$x = -0.38$ and $x = -2.61$
$x^2 - 2x - 5 = 0$	$\frac{-(-2) \pm \sqrt{(-2)^2 - 4(1)(-5)}}{2(1)}$	$x = \frac{2 \pm \sqrt{24}}{2}$	$x = 3.45$ and $x = -1.45$
$2x^2 - 6x + 1 = 0$	$\frac{-(-6) \pm \sqrt{(-6)^2 - 4(2)(1)}}{2(2)}$	$x = \frac{6 \pm \sqrt{28}}{4}$	$x = 2.82$ and $x = 0.18$

Can you link each quadratic formula below to each function?

Function	Equation	Quadratic formula
	$y = x^2 - 4x + 3$	$x = \frac{-3 \pm \sqrt{1}}{2}$
	$y = x^2 + 3x + 2$	$x = \frac{4 \pm \sqrt{0}}{2}$
	$y = x^2 - x - 2$	No solutions
	$y = x^2 - 4x + 4$	$x = \frac{4 \pm \sqrt{4}}{2}$
	$y = x^2 + 2x + 2$	$x = \frac{1 \pm \sqrt{9}}{2}$