Quadratics EoC Prep

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

$$\sqrt{-1} = i$$

$$i^2 = -1$$

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

$$y = ax^2 + bx + c$$

$$y = a(x - r_1)(x - r_2)$$

$$h = \frac{-b}{2a}$$

2

***Standard: A-REI**

Write an equivalent form of the quadratic function $f(x) = 2x^2 + 12x + 20$ by dragging and dropping the correct values and operation symbols into the vertex form provided.

0	
1	7
2	8
3	9
4	+
5	−
6	

$f(x) =$ ☐ $(x$ ☐ ☐ $)^2$ ☐ ☐

1

Select all expressions equivalent to $162x^2 - 72$.

A $2(9x - 6)^2$

B $2(81x^2 - 36)$

C $2(9x - 6)(9x + 6)$

D $18(3x^2 - 2)^2$

E $18(3x - 2)(3x + 2)$

3

The function $f(x)$ is given by the equation $f(x) = 3(x^2 + 2)$. The values for the quadratic function $h(x)$ are shown in the table.

x	−2	−1	0	1	2
$h(x)$	6	−3	−6	−3	6

Which statement is true?

A. The y-intercept of $h(x)$ is 12 units below the y-intercept of $f(x)$.

B. The y-intercept of $f(x)$ is 12 units below the y-intercept of $h(x)$.

C. The y-intercept of $f(x)$ is 4 units above the y-intercept of $h(x)$.

D. The y-intercept of $f(x)$ is 6 units above the y-intercept of $h(x)$.

4

The polynomial $2x^2 + x - 15$ can be written as $(2x - 5)(x + 3)$. At which values of x does the graph of the polynomial cross the x-axis?

One solution to x is **A**.

The other solution to x is **B**.

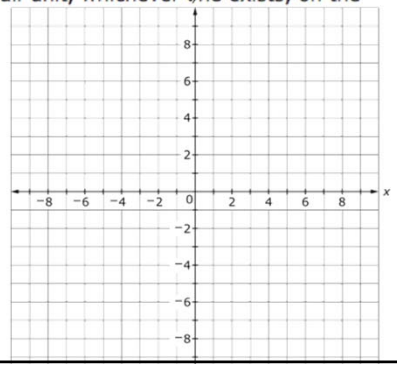
Circle the correct answers.

Box A	Box B
−2.5	1.5
2.5	3
5	−1.5
−5	−3

6

The graph of a function $f(x) = 3x^2 - 5x - 7$ is a parabola.

Plot the points for the x-intercept(s), y-intercept(s), and maximum or minimum point to the nearest half unit, whichever one exists, on the coordinate grid provided.



5

A quadratic equation is given as $3x^2 + 4x + 8 = 0$. Write the solution(s) of the equation in simplest form. Enter one solution in each response box. If there is only one solution, leave one response box blank.

7

A parabola has x-intercepts at 4 and -2 and has a maximum value of 12.

Write the equation of the parabola in any form.