

Name:

*Answers!*

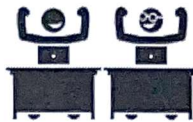
Class:



Communication



Successful Partnership



Encouragement



Solving Problem Together



Collaboration

For each of the below, sketch a graph of the function and label the graph with the features listed.

Question 01

$$f(x) = (x - 5)(x + 1)$$

Root 1:  $(5, 0)$

Root 2:  $(-1, 0)$

Line of Symmetry:

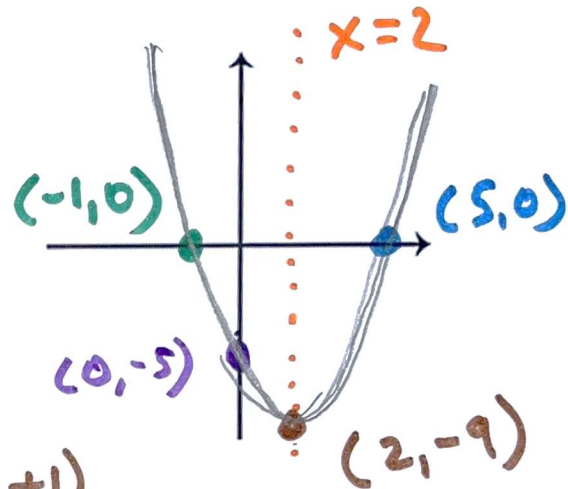
Vertex:  $(2, -9)$

y-intercept:

$(0, -5)$

$(2-5)(2+1)$   
 $(-3)(3)$   
 $-9$

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



Question 02

$$f(x) = (x - 2)(x - 4)$$

Root 1:  $(2, 0)$

Root 2:  $(4, 0)$

Line of Symmetry:

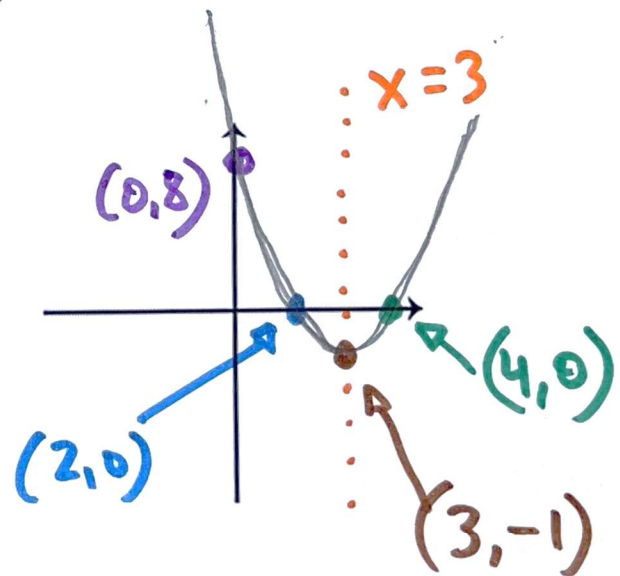
Vertex:  $(3, -1)$

y-intercept:

$(0, 8)$

$(3-2)(3-4)$   
 $(1)(-1)$   
 $-1$

$(0-2)(0-4)$   
 $(-2)(-4)$   
 $8$



Question 03

$$f(x) = -(x + 1)(x - 3)$$

Root 1:  $(-1, 0)$

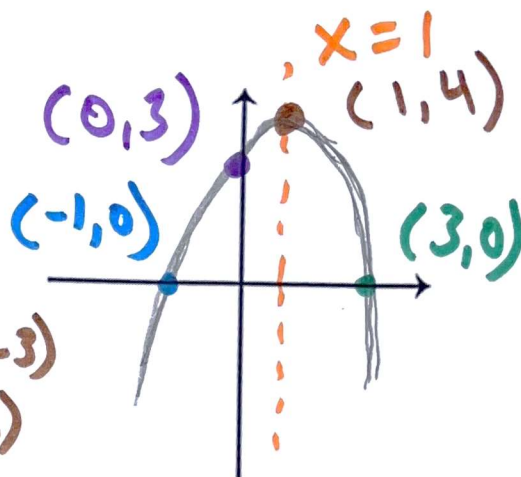
Root 2:  $(3, 0)$

Line of Symmetry:  $x = 1$

Vertex:  $(1, 4) \rightarrow -\frac{(1+1)(1-3)}{(2)(-2)} = 4$

y-intercept:  $(0, 3)$

$$\hookrightarrow -\frac{(0+1)(0-3)}{(1)(-3)} = 3$$



Question 04

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

Root 1:  $(3, 0)$

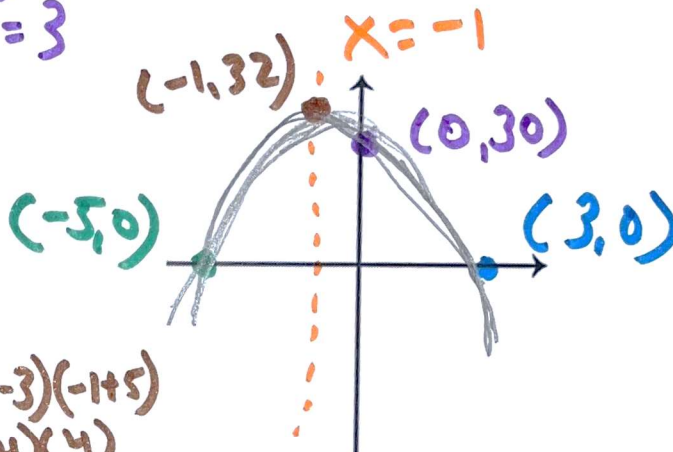
Root 2:  $(-5, 0)$

Line of Symmetry:  $x = -1$

Vertex:  $(-1, 32) \rightarrow -\frac{2(-1-3)(-1+5)}{2(-4)(4)} = 32$

y-intercept:  $(0, 30)$

$$\hookrightarrow -\frac{2(0-3)(0+5)}{2(-3)(5)} = 30$$



Question 05

$$f(x) = -3(x + 2)(x - 4)$$

Root 1:  $(-2, 0)$

Root 2:  $(4, 0)$

Line of Symmetry:  $x = 1$

Vertex:  $(1, 27) \rightarrow -\frac{3(1+2)(1-4)}{3(3)(-3)} = 27$

y-intercept:  $(0, 24)$

$$\hookrightarrow -\frac{3(0+2)(0-4)}{3(2)(-4)} = 24$$

