1.
The solutions are all of the ordered pairs that make the inequality true. To represent all of the solutions graphically, you shade the region that contains all the points that make the inequality true.

2.

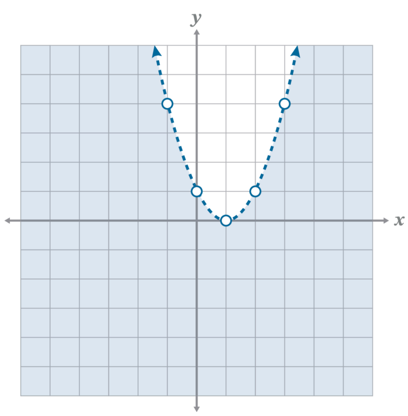
a) direction: downward
b) dashed
c) shading: around
d) vertex: $(\frac{3}{4}, \frac{25}{8})$

$Aos: x = -(\frac{3}{2(-2)}) = \frac{3}{4}$

$y = -2(\frac{3}{4})^2 + 3(\frac{3}{4}) + 2 = \frac{25}{8}$

e) y-intercept: (0, 2)

3.

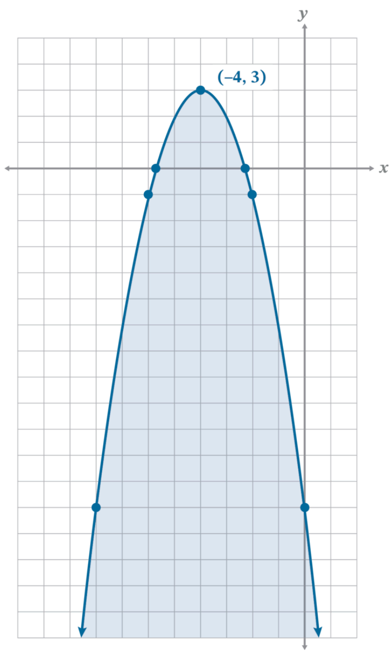


vertex: (1, 0), y-intercept: (0, 1), symmetric to y-int: (2, 1)

Vertex:	AoS: $x = -\left(\frac{b}{2a}\right) = -\left(\frac{-2}{2(1)}\right) = 1$ $y = (1)^2 - 2(1) + 1 = 0$ Vertex: (1, 0)

Additional points have been marked at (−1, 4) and (3, 4) to give a better visual of the graph. It is suggested, but not mandatory, that your student include these points on their graph.

4.



Additional points are marked as a reference for the instructor.

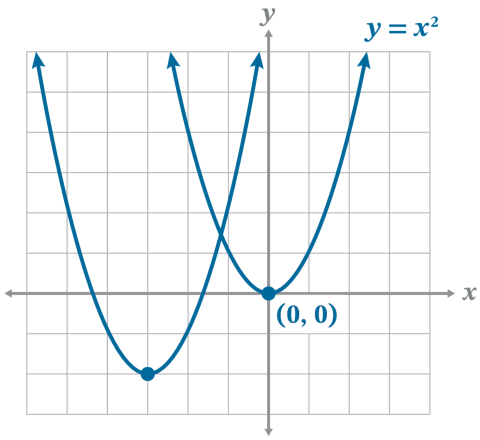
Vertex:	AoS: $x = -\left(\frac{b}{2a}\right) = -\left(\frac{-8}{2(-1)}\right) = -4$ $y = -(-4)^2 - 8(-4) - 13 = 3$ Vertex: (-4, 3)

5.
Sample: Determine whether the graph opens upwards or downwards, whether it will be solid or dashed, and whether it will be shaded inside or around the parabola. Then find the AoS and solve for the vertex. Find the y-intercept and the symmetric point to the y-intercept. Mark these points on the coordinate plane. If more points are needed to make the graph, use and mark the x-intercepts (if possible) or pick x-values and solve for y. Then connect the points to form a solid or dashed parabola and shade.

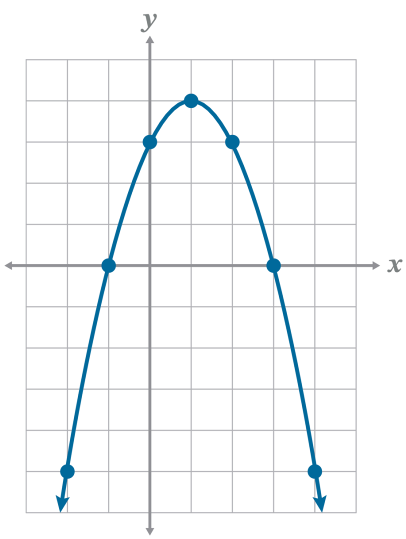
6.
h: When $x + h$ is used, the graph will move to the left h-spaces. When $x - h$ is used, the graph will move to the right h-spaces.

k: When $+k$ is used, the graph will shift up k-spaces. When $-k$ is used, the graph will shift down k-spaces.

7.



8.



9. From the point (0, 0), the graph will shift left 8 spaces and down 11 spaces. The graph will reflect so that it opens downwards (flip) and will be wider by a factor of $\frac{1}{2}$. The vertex of the graph is (−8, −11).

10. From the point (0, 0), the graph will shift right 20 spaces and up 17 spaces. The vertex is (20, 17). The range is $[17, \infty)$. Since $a = 1$, there is no dilation and the parabola opens upward.