DAY 2 – Converting Vertex Form to Standard Form

1. Write each equation in standard form.

   a. $y=(x+2)^2+3$ b. $y=2(x-1)^2$ c. $y=-(x+4)^2-1$

2. Determine whether the equations in each set are equivalent.

   a. $y=(x+2)^2$ and $y=x^2+4$

   b. $y=-(x+1)^2+3$ and $y=-x^2-2x-4$

   c. $y=3(x-2)^2-4$ and $y=3x^2-12x+8$

3. a. Which relation has the same graph as $y=2x^2-12x+19$?

   i. $y=2(x-2)^2+17$

   ii. $y=2(x-2)^2+11$

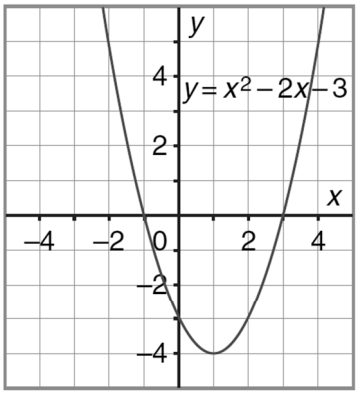
   iii. $y=2(x-3)^2+1$

   Justify your choice.

   b. Determine the coordinates of the vertex for the parabola $y=2x^2-12x+19$. _____

   Explain how you determined these coordinates.

4. The graph of the parabola $y = x^2 - 2x - 3$ is shown.



   a. What are the coordinates of the vertex? _____

   b. Write the equation in vertex form.

   c. Check that the equation in part b is correct by converting it to standard form.

5. $h = -5(t - 0.6)^2 + 11.8$ represents height, in m, of a diver above the water, where t is time, in sec, since the person left the 10 m high platform.

   a. What is the maximum height?

   b. How long after the diver left the platform does she reach her maximum height?

   c. What is the y-intercept (h-int) and what does it represent?