1. Give the functions vertex, axis of symmetry, domain and range.

$h(x) = -(x - 5)^2 + 2.$

2. Write the equation of the parabola in vertex form. Then rewrite the equation in standard form.

Vertex: (-2, 5) and passes through the Point: (2,13)

3. Graph the parabola by finding the x-intercepts, y-intercept and vertex.

$y = x^2 + 10x - 24$

4.   Find the x-intercepts of the parabola.

$y = 3x^2 - 10x + 8$

5. Solve the equation by factoring.

A. $x^2 + 5x = 24$ B. $3x^2 - 8x = -4$

6. The height, in feet, of a t-shirt launched from a t-shirt cannon high in the stands at a football stadium is given by $h(x)=-16x^2 + 32x + 128$, where x is the time in seconds after the t-shirt is launched. How long will it take before the t-shirt reaches the ground?

7. Write the equation of a parabola with x-intercepts at (-3, 0) and (2, 0) that passes through the point (-2, 4) in **Factored form**, then rewrite the equation in **Standard Form**.

8. Use your calculator to find the equation in standard form of the parabola that passes through the points (-3, 2), (-1, 0), (1, 6)

Then **use algebra** to prove that the equation is correct.