

Warm Up: Complete the square to find the

vertex:  $f(x) = -\frac{1}{2}x^2 - 3x + 5$

## MCF 3MI

### Unit 4 - Standard and Vertex Form

### Day 4 - Completing the Square - Day 2

Example 1: Find the vertex by completing the square:

$$y = 2x^2 - 3x - 7$$

Example 2: The flight of a projectile is modeled by the equation  $h(t) = -5t^2 + 30t + 4$ , where  $h$  is in metres and  $t$  is in seconds.

a) What is the maximum height reached by the projectile?

b) When does it reach the maximum height?