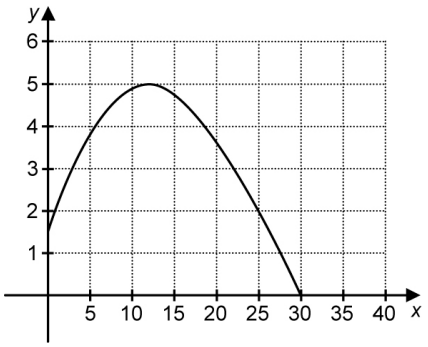
MFM 2P1 Name:_____

Graphing Quadratics

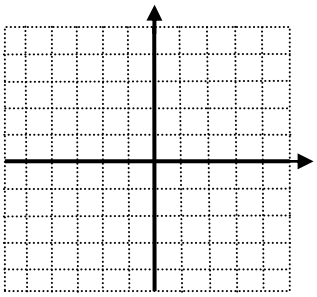
1. The graph shows the height of a basketball over time after it was thrown.
   a) What was the maximum height reached by the basketball?
   b) Approximately how long did it take for the ball to reach this maximum height?
   c) Suppose the basketball was originally thrown from a player's hands that were level with the top of his head. Approximately how tall is the player?



2. Graph each of the following by making a table of value. For each, identify its vertex, zeros, axis of symmetry, y-intercept, direction of opening, and whether it has a minimum or maximum.

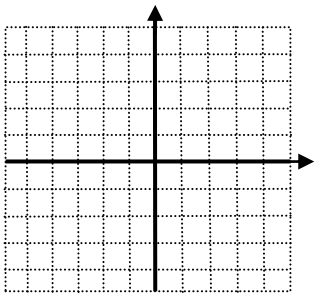
   a) $y = -x^2 + 2x$

x	y
-2	
-1	
0	
1	
2	



   b) $y = 0.5x^2 - x - 4$

x	y
-4	
-2	
0	
2	
4	



3. A competitive diver does a handstand dive from a platform. This table of values shows the time in seconds and the height of the diver, relative to the surface of the water, in metres.

Time (s)	0	0.3	0.6	0.9	1.2	1.5
Height (m)	10	9.56	8.24	6.03	2.94	-1.03

a) How tall is the platform?

b) What is the vertex? What information is it giving?

c) When does the diver hit the water?

4. A harbour ferry service has 240,000 riders per month who pay a ticket price of $2. The price will be increasing next month. Previously price increases have shown that for every $0.10 increase in the price, the number of riders will drop by 10,000.

a) Complete the table. Then graph the data using Desmos.

Fare ($)	2.00	2.10	2.20	2.30	2.40	2.50
Riders	240,000					

b) What price provides the most revenue? What is this revenue amount?