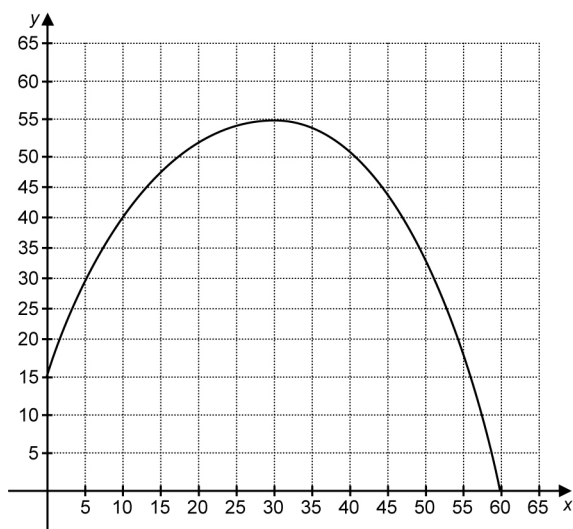Name: _____   Date: _____

Practice: Interpret Quadratic Relations

1. A sprinkler system sprays a stream of water onto the grass. The path of the water can be modelled by the quadratic relation shown below. The height and the horizontal distance are measured in centimetres.

a) What is the maximum height reached by the stream of water?
b) How far from the sprinkler does the stream of water reach this maximum height?
c) Suppose a dog stands 20 cm away from the sprinkler and does not get wet. What is the maximum height of the dog?
d) How high above the ground is the sprinkler head?

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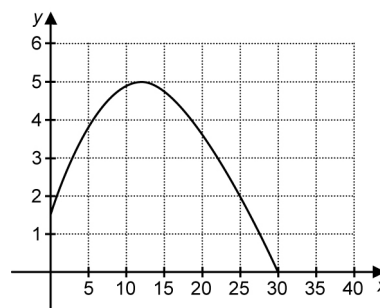
a) What was the maximum height reached by the basketball?
b) How long did it take for the ball to reach this maximum height?
c) Suppose the basketball was originally thrown from a player's hands that were level with the top of his head. How tall is the player?

3. The table shows the horizontal distance travelled and the height reached by a baseball after it was hit with a bat.

Horizontal Distance (m)	Height (m)
0	0
10	10
20	30
30	60
40	30

a) Use a graphing calculator to graph the data.
b) Find the equation of the curve of best fit.
c) Determine the horizontal distance at which the ball reached its maximum height.

Name: _____   Date: _____

4. The table shows the time taken and the height reached by a mountain climber as he moved from one side of a mountain, over its peak, and then onto the other side.

Time (min)	Height (m)
0	0
30	300
60	500
120	600
180	500

a) Use a graphing calculator to graph the data.
b) Find the equation of the curve of best fit.
c) What is the height of the mountain at its peak?
d) How long did it take for the climber to reach the peak?

5. The table shows the horizontal distance travelled and the height reached by a toy rocket after it was launched from the ground.

Horizontal Distance (m)	Height (m)
0	0.25
1	0.5
2	1.5
3	2.5
4	1.5
5	0.5

a) Use a graphing calculator to graph the data.
b) Find the equation of the curve of best fit.
c) Determine the horizontal distance travelled by the rocket when it reached its maximum height.
d) How high above the ground was the launch pad?

6. The table shows the horizontal distance travelled and the height reached by a football after it was thrown by a quarterback.

Horizontal Distance (cm)	Height (cm)
0	150
200	450
400	850
600	1050
800	850

a) Use a graphing calculator to graph the data.
b) Find the equation of the curve of best fit.
c) Determine the horizontal distance travelled by the ball when it reached its maximum height.
d) Suppose the football was thrown from the quarterback's hand when it was level with the top of his head. How tall is the quarterback?