DAY 3 – Interpret Quadratic Graphs

1. 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	0.7
1	1.7
2	2.3
3	2.5
4	2.3
5	1.7

a) What is the independent variable (x) and what is the dependent variable (y)?

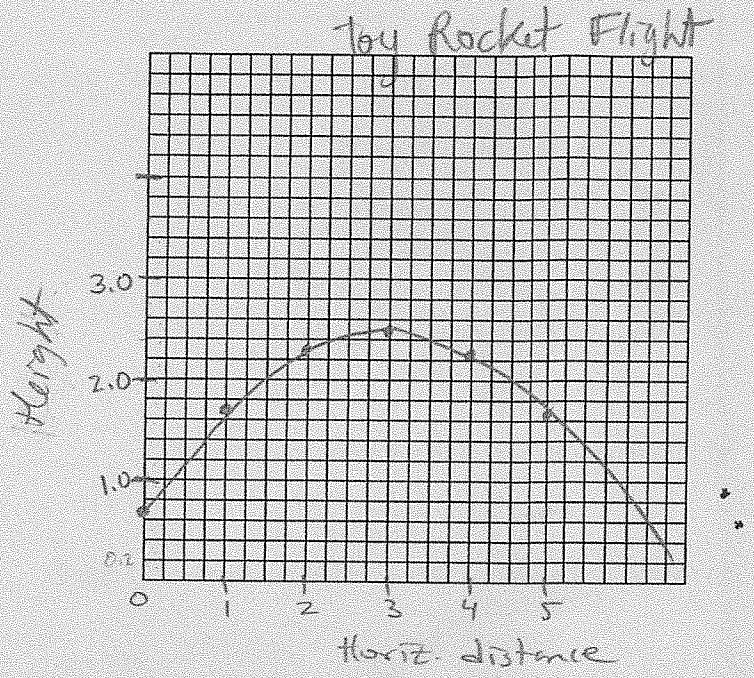
x = horiz. distance

y = height

b) Graph the data. Label axes and give graph a title.

c) Determine the horizontal distance travelled by the rocket when it reached its maximum height.

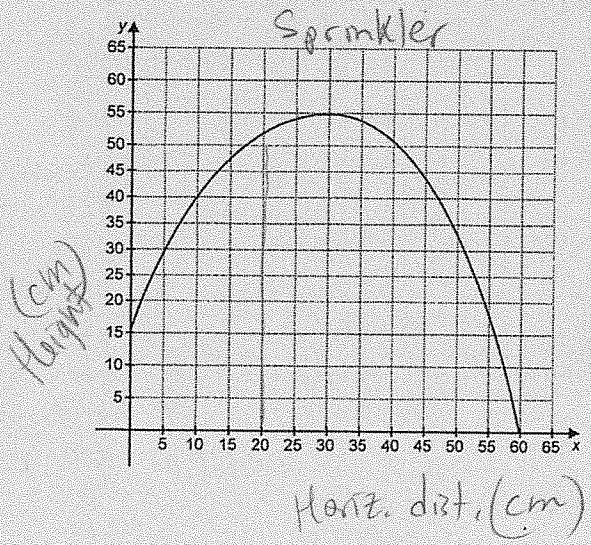
3 m



d) How high above the ground was the launch pad or the initial height?

0.7 m

2. 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. Label axes and give the graph a title.



a) What is the maximum height reached by the stream of water?

55 cm

b) How far from the sprinkler does the stream of water reach this maximum height?

30 cm

c) Suppose a dog stands 20 cm away from the sprinkler and does not get wet. What is the maximum height of the dog?

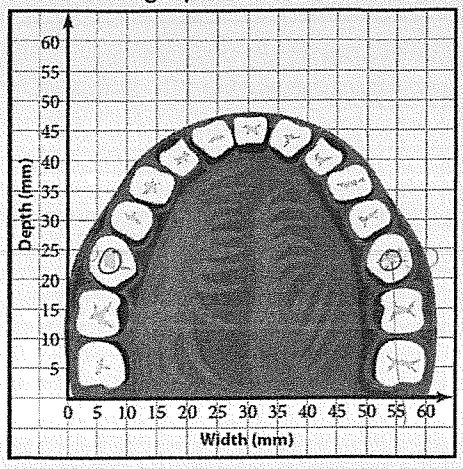
~ 50 cm

d) How high above the ground is the sprinkler head?

15 cm

10

3. Use the graph of a human mouth to answer questions.



a) What is the maximum depth of the mouth?

48 mm

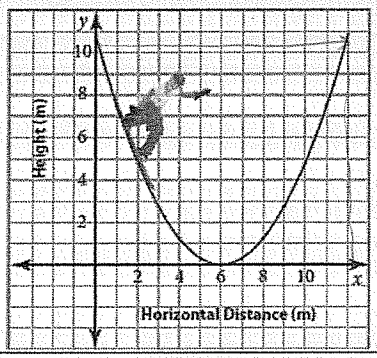
b) What is the width of the mouth if the depth is 25 mm?

55 − 10 = 45 mm

4/4

4.

In the second run, the snowboarder travels down one side of a parabolic curve and up the other. For this run, graphing height against horizontal distance from the starting point produces a parabola.



a) Where does the minimum height occur horizontally?

6m

b) How wide apart is the half pipe?

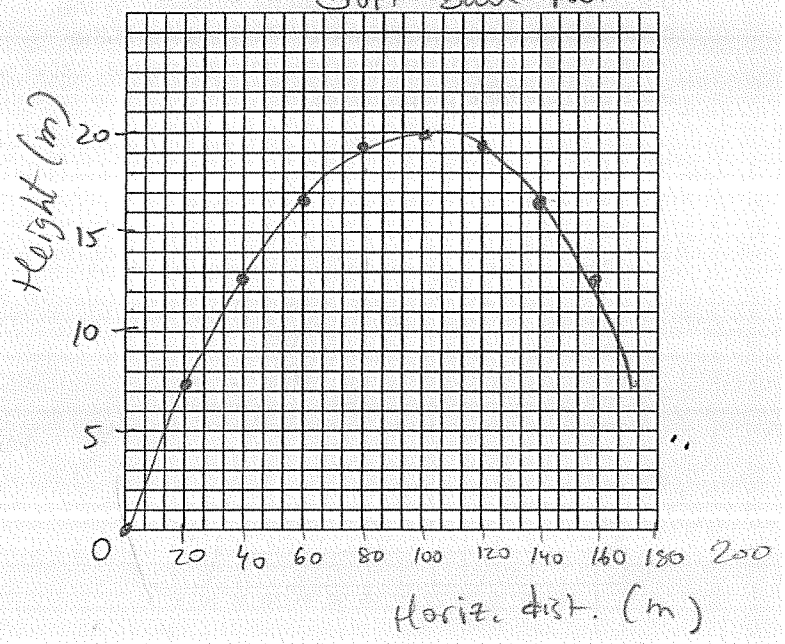
12m

5. The table shows the height and horizontal distance of a golf ball after it is hit.

Horizontal Distance (m)	Height (m)
0	0
20	7.2
40	12.8
60	16.8
80	19.2
100	20.0
120	19.2
140	16.8
160	12.8

a) Graph the relation. Label axes and give the graph a title.

Golf Ball Path



b) When does the maximum height of the ball occur?

6 at 100 m horiz. distance

c) What is the maximum height?

20 m

d) What is the initial height?

0 m

e) When does the ball land on the ground again?

at 200 m

10