


4.

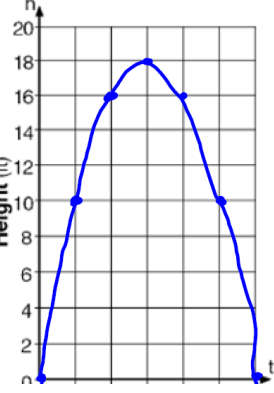
x	y
0	3
1	51
2	67
3	51
4	3



b. 3 feet
c. 67 feet max height
2 seconds

5.

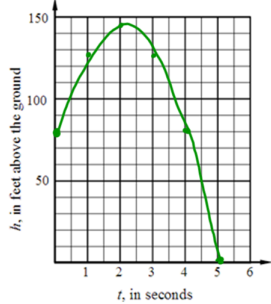
x	y
0	0
1	10
2	16
3	18
4	16
5	10
6	0



b. 3 min
c. 18 feet
d. 10 ft

6.

x	y
0	80
1	128
2	144
3	128
4	80
5	0



b. $h(0) = 80$ This is the start height
c. At time zero the projectile is 80 feet above the ground.
d. Max Height = 144 feet at 2 seconds

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Graphing Quadratic Word Problems

Day 2

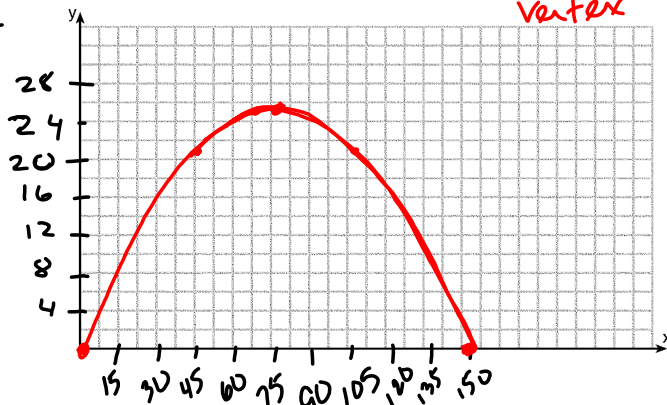
1) A football player attempts to kick a football over a goal post. The path of the football can be modeled by the function

$$h(x) = -\frac{1}{225}x^2 + \frac{2}{3}x$$

where x is the horizontal distance from the kick, and $h(x)$ is the height of the football above the ground, when both are measured in feet.

(a) On the set of axes below, graph the function $y = h(x)$ over the interval $0 \leq x \leq 150$. [Show your work.]

x	y
0	0
15	9
45	21
75	25
105	21
135	9
150	0



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- (b) Determine the vertex of $y = h(x)$. Interpret the meaning of this vertex in the context of the problem.

Foot ball is 25 feet high
it has travelled 75 feet
in distance

- (c) The goal post is 10 feet high and 45 yards away from the kick. Will the ball be high enough to pass over the goal post? [Justify your answer.]

$$45 \text{ yards} = 135 \text{ feet}$$

(45)(3) →

At 135 feet distance
the ball is only 9ft high

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