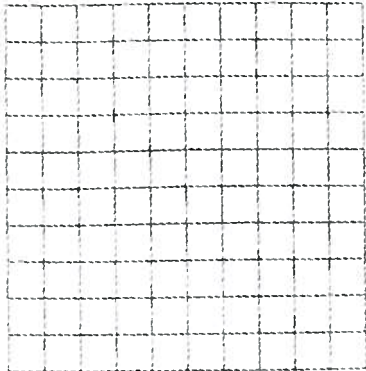


The quadratic relation  $h = -5t^2 + 210$  describes the path of a rock that falls from the top of a cliff, with  $h$  representing the height in metres and  $t$  representing the time in seconds.

a) Complete the table. Then graph the relation.

$$h = -5t^2 + 210$$

$t$ (s)	$h$ (m)
0	
1	
2	
3	
4	
5	
6	



b) What is the height of the cliff? \_\_\_\_\_

c) How long will it take the rock to reach the bottom of the cliff?

Round your answer to the nearest tenth of a second. \_\_\_\_\_

d) How far from the bottom of the cliff is the rock when half of the time has passed?

\_\_\_\_\_

A hamburger stand sells a total of 300 hamburgers per day at \$3.50 each. Market research has shown that for every \$0.25 increase in price, 15 fewer hamburgers will be sold.

a) Complete the table.

b) Plot revenue versus price using a graphing calculator.

c) What price would generate the highest total revenue?

\_\_\_\_\_

Price (\$)	Number Sold	Revenue (\$)
3.50	300	1050
3.75	285	
4.00		
4.25		
4.50		
4.75		
5.00		
5.25		
5.50		

d) What total revenue would this generate? \_\_\_\_\_