

Preview

Read Part 3: Projectile Motion: Finding the Model on pg. 275 and complete # (1 – 4)all on pg. 276

U4L6 – 3.4 The Role of the Zeros of a Quadratic Relation (Graphing Calcs)

Students will:

learn how to write quadratic relations for a variety of situations

learn how to graph quadratic relations for a variety of situations

be able to answer questions about situations involving quadratic relations

Complete Part 4: #(1 – 4) pg. 276

Examples

1. For $y = (x + 3)(x - 4)$:

a) Without graphing show that the relation is quadratic. (Hint: Look at second differences in a table of values)

b) Without using the table of values or graphing technology sketch the graph showing the zeros and the coordinates of the vertex.

2. The zeros of a parabola are -3 and 5 . The parabola crosses the y -axis at -75 .

a) What is the equation of the quadratic relation?

b) What are the coordinates of the vertex?

3. This data describes the flight of a plastic glider launched from a tower on a hilltop. The height values are negative whenever the glider was below the height of the hilltop.

Time(s)	Height(m)
0	9
1	5.5
2	2.5
3	0
4	-2
5	-3.5
6	-4.5
7	-5
8	-5
9	-4.5
10	-3.5

Time(s)	Height(m)
11	-2
12	0
13	2.5
14	5.5
15	9
16	13
17	17.5
18	22.5
19	28
20	34

- a) How tall is the tower?
- b) Find an equation to model the flight of the glider.
- c) Find the lowest point in the glider's flight.