

## Algebraic Reasoning

Name: \_\_\_\_\_

Per: \_\_\_\_\_

POINTS: \_\_\_\_\_

## Classwork #16 Quiz

Be sure to include your work when appropriate.

Use finite differences if the data set represents a linear, exponential, quadratic, or cubic function.

1.

$x$	$y$
0	2.25
1	8.75
2	15.25
3	21.75
4	28.25
5	34.75

Use finite differences to determine the function that best models the data.

2.

$x$	$y$
0	-1
1	0
2	11
3	50
4	135
5	284

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For questions 3 and 4, use the following information.

HEIGHT OF BOX (INCHES), $x$	1	2	3	4	5	$x$
VOLUME OF BOX (CUBIC INCHES), $V$	28	176	540	1,216	2,300	

3. Write a cubic function to represent the relationship between  $x$  and  $V$ .

4. Determine the volume of a box with a height of 8 inches.

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