

Algebra 1

Chapter 4.1 – 4.3 study guide

Sketch a graph to represent each situation. Remember to label and title the graph, sketch the graph, and label each section.

1. Sketch a graph of the elevation of a skydiver. Be sure to label both axes and give the graph a title. Label the graph with parts A-E (using the letters).

- A – Plane prepares for take-off
- B – Plane takes off and rises to jump height
- C – Person jumps but doesn't pull their parachute
- D – Person finally pulls parachute and floats toward the ground
- E – Person lands back on the ground



2. You earn \$20 for each of four lawns you cut



3. An elevator fills with people on the ground floor. Most get off at the seventh floor, and the remainder get off at the ninth floor. Then two people get on at the tenth floor and are carried back to the ground floor without any more stops.



For #4-8 determine the independent and dependent variable for each scenario.

4. The height of a burning candle and the time the candle burns.
5. The number of calories you eat and your weight.
6. The number of homework problems completed and the number of homework problems remaining.
7. The amount of ink in your pen and the length of a rough draft you write.
8. The number of hours you babysit and the money you are owed for babysitting.

For # 9-12, determine if each function relationship is linear. If so, what is the rate of change?

9.

X	Y
10	55
11	56
12	57
13	58

10.

X	Y
2	2
6	5
0	8
12	11

11.

X	Y
-3	100
-6	99
-9	98
12	97

12.

X	Y
1	12
3	22
5	32
11	62

For #13-14, write an equation that represents each sentence.

13. One more than the product of a number n and 5 is 190.
14. One third of m is 4 less than n .

For #15-17, each set of ordered pairs (or table) represents a function. Write a rule that represents the function.

15. $(0, -1), (1, 0), (2, 3), (3, 8), (4, 15), (5, 24)$
16. $(2, 2.3), (4, 3.5), (6, 4.7), (8, 5.9), (10, 7.1)$
17. $(1, 1), (14, 196), (6, 36), (11, 121), (15, 225)$