

Chapter 3 Test

For #1 to #3, select the best answer.

1. Trudy earns a base monthly salary of \$1500 and a 10% commission on all sales, s . Which equation best represents Trudy's monthly income, I ?

A $I = 10s + 1500$
B $I = 0.10s + 1500$
C $I = 0.10(s + 1500)$
D $I = \frac{s}{0.10} + 1500$

2. Which equation represents a non-linear relationship?

A $x = y$
B $y = 2x$
C $y = x + 2$
D $y = x^2$

3. A rental bicycle costs \$20 plus \$5 per hour. What is the cost of a 5-h rental?

A \$120 **B** \$55
C \$45 **D** \$25

4. **a)** Graph the data in the table below.
b) Write an equation that models the relationship between x and y .
c) Is the relationship a direct or partial variation? Explain.

x	y
0	1
1	3
2	5
3	7
4	9

5. Ben records the growth of a bean plant. The table shows the results.

Day	Height of Plant (cm)
0	0
5	3
10	6
15	9
20	12

- a)** Sketch a graph of the data in the table. Draw a line of best fit.
b) What is the equation of the line?
6. **a)** Create a table of values for the equation $y = 2x - 2$.
b) Use the table of values or the equation to sketch a graph of the relation.
7. What are the slope and y -intercept of each equation?
a) $y = x + 1$
b) $y = 1 - x$
c) $y = 3x$
d) $y = 2x + 3$
8. The graph of a relationship between x and y has a slope of 6 and a y -intercept of 2.
a) What is the equation of the line?
b) What is the value of the relationship when x is 2?



9. An electrician measures the voltage and current of a circuit. The table shows the results.

Voltage (volts)	Current (amps)
0	0.0
2	0.5
4	1.0
6	2.1
8	2.9
10	4.1

- a) Sketch a graph of the data in the table. Draw a line of best fit.
- b) Look at your graph. Is the relationship a direct variation or a partial variation? Explain.
- c) What is the equation of the line of best fit?
- d) Estimate the voltage for a current of 20 amps.
10. a) What is the difference between continuous data and discrete data?
- b) Give a real-world example of each.

