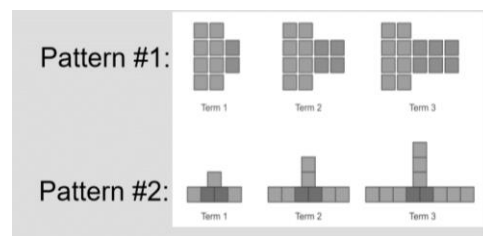


Extra Quest Review Practice

1. For each pattern (to the right), use the diagram to:
- Represent this pattern numerically (use a table of values).
 - Represent this pattern graphically.
 - Represent this pattern algebraically using an algebraic expression. Remember to write let statements for the variables.



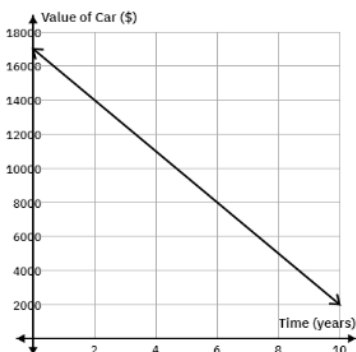
2. For each relationship described below:
- State the initial value/y-intercept and the slope
 - Determine an equation to represent it
 - Complete a table of values using 0 – 5
 - Graph the relationship
- Jacob has \$500 in his bank account but will withdraw \$12/day for lunch.
 - Julie starts 8 m away from his house and walks away from his house at a rate of 5m/second
 - You stack books on top of a shelf that is 1.3m high and each book is 0.20m high
 - Jorge starts with \$400 in his account but spends \$45/day

3. The price to go strawberry picking, y , is made up of a fixed fee plus an additional fee based on the weight, in grams of the berries you pick. The equation is $y = 2x + 5$.

- Determine the initial value and rate of change.
- Use words to describe the scenario.
- Complete a table of values using 0 – 5
- Graph the relationship.

4. Determine the y-intercept, slope and equation for each of the following (be sure to explain what your variables represent). Determine whether each is direct or partial variation.

a)

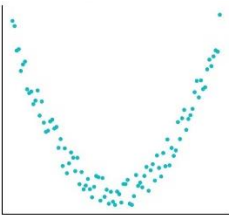


b)

Hour	Second Hand Revolutions
1	60
2	120
3	180
4	240
5	300

5. Determine whether the following is linear or non-linear.

a)



b)

Time (hours)	Temperature (degree Celsius)
3	5
6	0
9	-5
12	-10

c)

x	y
10	5
13	7
16	10
19	14

Answers

- 1 c) Pattern 1: $y = 8 + 2x$; Pattern 2: $y = 2 + 3x$ where y = number of blocks and x = step number
 2 a) y-intercept = 500, slope = -12 b) y-intercept = 8, slope = 5
 c) y-intercept = 1.3, slope = 0.2 c) y-intercept = 400, slope = -45
 3 a) initial value = 5 ROC = 2
 b) It costs a fixed fee of \$5 plus an additional \$2 per gram of strawberries you pick.
 4 a) y-intercept = 17 000, slope = -1500
 Equation: $C = -1500t + 17\,000$ where C is cost of car and t is time in years
 Partial variation since it does not start at 0
 b) y-intercept = 0, slope = 60
 Equation: $R = 60t$ where C is revolution of the second hand and t is time in hours
 Direct variation since it does start at 0
 5 a) non-linear b) linear c) non-linear