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QUIZ 5 Part IV & 6.1 – 6.3

1. Below is a table which represents the cost of a rental as a function of the number of km travelled.

|  |  |
| --- | --- |
| Distance d (km) | Cost C ($) |
| 0 | 50 |
| 100 | 80 |
| 200 | 110 |
| 300 | 140 |
| 400 | 170 |

a) Is the relation linear? Explain. [1]

b) Which variable will you put on the *y*-axis if you represent this function graphically? [1]

c) What is the rate of change? And what does it represent? [2]

1. Determine if the following relations are linear. You do not need to justify your answer. [3]

a) The volume of a sphere: $V=\frac{4}{3}πr^{3}$

b) perimeter of a circle as a function of its radius: $p=2πr$.

c) The relation between the value of a car and the number of year that have passes, if the car loses
 10% of its value each year.

d) The number of legs as function of the number of chickens considered.

e) $y=-\frac{2}{3}x+3$

f) $y=5x^{2}+3$
2. Answer the following questions about the graph below:



Number of days at school

Number of loose leaf paper

Number of loose leaf paper in relation to the number of days at school

a) What is the independent variable? [1]

b) Is this relation linear? Justify [1]

c) What is the rate of change? What does it represent? [2]

1. What is the slope and the y-intercept of the following lines: [3]
2. $y=\frac{2}{5}x-3$

slope: \_\_\_\_\_\_\_

y-intercept : \_\_\_\_\_\_\_
3. $y=x+5$
slope: \_\_\_\_\_\_\_

y-intercept : \_\_\_\_\_\_\_
4. Sketch an example of a line with respect to the following restrictions. [2]

#4 – slope = 0

#1 – positive slope

#2 – negative slope

#3 – undefined slope

1. Fill the table with the words: parallel, perpendicular, neither. [3]

|  |  |  |  |
| --- | --- | --- | --- |
|  | $$y=\frac{1}{5}x-1$$ | $$y=-\frac{1}{5}x-1$$ | $$y=5x-1$$ |
| $$y=-\frac{1}{5}x+1$$ |  |  |  |
| $$y=\frac{1}{5}x-1$$ |  |  |  |
| $$y=-5x-1$$ |  |  |  |

1. Determine the slope of a line that passes through the points A(145 ; -3) and B(-15 ; 231). [2]
2. Determine the slope of the segments AB and CD. [2]



1. Consider the points A, B, C et D on the figure below. Is ABCD a parallelogram? Justify. [2]

2. a) On the graph below, place the points A(1 ; -3) and B(-2 ; 4) [1]



b) Determine the coordinates of a possible point C if ABC is a right triangle (right angled at A). [1]

1. Consider the equation $y=\frac{2}{5}x-4$
2. What is its y-intercept? [1]
3. What is its x-intercept? [1]
4. Using the information from a) and b), sketch a graph of the equation. [1]

