Mathematical Literacy 4 - Module 1

Name: Solutions   Marks Available: 50

                                                   Time: 45 minutes

Question 1:

Choose the correct answer:

1. If a R900 dress is discounted by 30%, it will cost:
   a. R270
   b. R300
   c. **R630**
   d. R600

2. On a globe,
   a. **The lines of latitude remain equally spaced while the distance between the lines of longitude vary.**
   b. The distances remain the same equally spaced for both the lines of latitude and longitude.
   c. The distances between the lines of latitude vary while the distance between the lines of longitude do not vary.
   d. Both the distances between the lines of latitude and longitude vary.

3. A vernier calliper is used to measure:
   a. Weight
   b. **Distance**
   c. Mass
   d. Volume

4. Velocity is:
   a. the same as speed.
   b. **speed in a certain direction.**
   c. the gradient / slope of speed.
   d. unrelated to speed.

5. The correct measurement for weight is:
   a. Kilograms
   b. **Newtons**
   c. kg/m^2
   d. m/s

[10]

Question 2:

Give the meaning of the following terms:

a. Negative numbers:

Numbers that are less than zero.

b. Proportion:

When two variables are in proportion with eachother, when one changes so does the other.

c. Kelvin (K)

A scientific measurement of temperature, starting at absolute zero and going up in degrees centigrade.

d. Pie

The ratio between the circumference and the diameter of a circle.

e. Improper fraction

When the numerator (top number) is bigger than the denominator (bottom number)
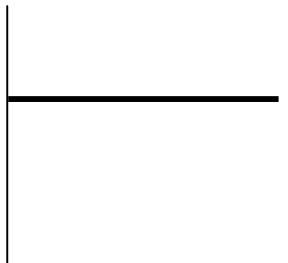
[10]

Question 3

Calculate the following:

a. ¾ of ½ of 2400 **900**

b. 1600 ÷ 135 (25 – 23) **5.93**

[4]

Question 4

Draw graphs of the following:

a. Zero velocity on distance vs. time (2)
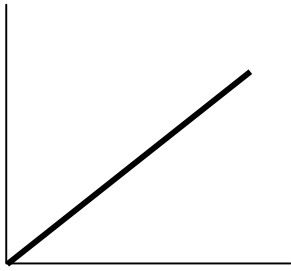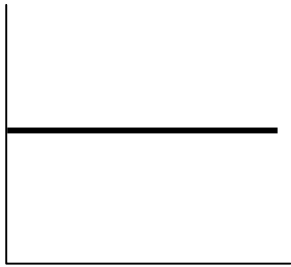

Note: this can also lie on the line y=0

b. Zero velocity on velocity vs. time (2)
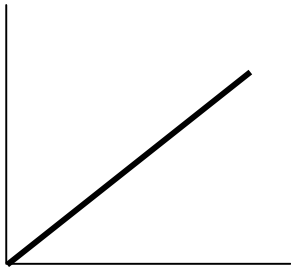

c. Constant velocity on distance vs. time (2)

d. Constant velocity on velocity vs. time (2)

e. Constant acceleration on velocity vs. time (2)

[10]

Question 5:

An account with Telkom for ADSL access plus line rental costs R316.27. You work out that you need 10 Gigabytes of data per month.

a. ISP 1 offers prepaid data at R70 / GB. How much would the ten GB of data cost (including line rental)? (4)

Total cost = R316.27 + R70 x 10 = R1 016.27

b. ISP2 comes in with an offer of R29 / GB with a special on top-ups of R14.50 per GB. Assuming that you buy 2GB on contract and buy the rest of the data as top-ups, how much would this cost you? (4)

R316.27 + 2 x 29 + 8 x 14.50 = R490.27

c. The special for top-ups end, and for each additional GB, you now have to pay R40. How much more would this cost you than in (b)? (4)

R316.27 + 2x29 + 8 x 40 = R694.27

d. Compare the differences in the three prices. (4)

Option A is more expensive than option B by R526 and by option C by R322
Option C is more expensive than option B by R204

[16]