Mathematical Literacy 3   **Class Test 1**

Name: *Solutions*   Date:_____

1. Arrange the following numbers from largest to smallest:

    a. 0.454; 0.73; 0.117; 0.265; 0.138   (2)

    0.73; 0.454; 0.265; 0.138; 0.117

    b. $\frac{5}{16}; \frac{3}{7}; \frac{4}{6}; \frac{5}{8}; \frac{3}{6}$ (2)

    $\frac{4}{5}; \frac{5}{8}; \frac{3}{6}; \frac{3}{7}; \frac{5}{16}$

                                                                          [4]

2. Convert the following to percentages:

    a. $\frac{18}{32}$ (2)

    56.25%
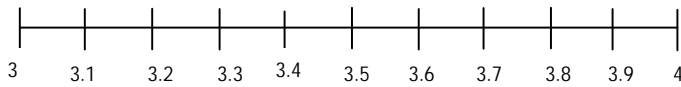
    b. 0.864   (2)

    86.4%

                                                                          [4]
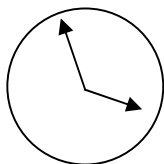
3. Number lines:

    a. Draw a number line between 2 and 3 showing tenths between the two numbers. (2)

    3   3.1   3.2   3.3   3.4   3.5   3.6   3.7   3.8   3.9   4

    b. Draw a number line between 5.4 and 5.5 showing 100s between the numbers. (2)

    5.4   5.41   5.42   5.43   5.44   5.45   5.46   5.47   5.48   5.49   5.5
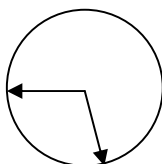
[4]

4. Put the following in 24 hour notation and sketch the analogue face:

    a. 3:56 AM   (2)   *03:56*

    b. 5:45 PM   (2)   *17:45*

[4]

5. Convert the following to fractions:

    a. 0.625   (2)

$$\frac{5}{8}$$

    b. 0.750   (2)

$$\frac{3}{4}$$

[4]

[20]

1. Calculate the share of R100 that 3 people will get if they divide it into the ratio 3:5:2

   3 + 5 + 2 = 10 .∴ 3 x R10 = R30; 5 x R10 = R50; 2 x R10 = R20. Total = R100

   [3]

2. If a cyclist can cycle 120km in 3 hours at what rate is he cycling? How long will it take him to cycle 200km?

   40 km /h; Time taken to travel 200km = 5 hours

   [4]

3. Convert the following:
   a. 24 inches into cm (2) *61.056cm*
   b. 15 ounces into grams (2) *425.25g*
   c. 9km into miles (2) *5.625 miles*

   1 inch = 2.544cm; 1 ounce = 28.35g; 1 mile = 1.60km   [6]

4. If the scale of a map is 1:10 000, what distance does 1cm on the map represent? Make sure your answer is in an appropriate unit.

   1cm : 10 000cm; 1cm = 100km

   [4]

5. If John and Shireen divide R60 between them such that Shireen gets $\frac{6}{10}$ of the total amount, how much does John get?

   Shireen gets R36 ∴ John gets R24

   [3]

6. How many seconds are there in one hour?

   3600 seconds

   [2]

   [20]

1. Describe each of the following accounts:
   a. Current Account (2)
      Account that is used every day, can be used to write cheques
   b. Savings Account (2)
      For savings purposes; earns higher interest

   [4]

2. If a bank charges R2.50 + R1.00 per R100 withdrawn, what will be the charge if you withdraw R600?

   R2.50 + (R1.00 x 6) = R8.50

   [3]

3. If you have R1250 invested in a bank account earning 7% per year, how much will you have at the end of the year?

   R1337.50

   [4]

4. Name three categories of source documents.
   Sales documents; Purchase documents; Banking documents

   [4]

5. What does it mean when you "cross a cheque?"
   You prevent it being cashed by someone other than the person who it is intended for.

   [2]

6. When will you get a receipt?
   When you have paid for a good or service

   [2]

7. If VAT is charged at 14%, calculate the VAT on a product that costs R1 500 (excluding VAT).
   R1500 x R1.14 = R1 710

   [2]

8. What is typically more expensive – to withdraw money from an ATM or from a teller?
   Teller

   [2]

   [20]

1. Give three tips on saving.
   Start saving at a young age; Save R10 out of every R100; Compare the interest rates on different investments; Never use a micro-loan business; Don't get a credit card; Don't buy on hire purchase; Hold of material purchases.

   [6]

2. Calculate the simple interest charged on R350 at 10% per annum over 5 years.
   10% of R350 = R35 .∴. Interest earned = R35 x 5 = R175

   [3]

3. Explain the purpose of income statements and balance sheets

   Income statements state how much money you or your company has earned over the past year, while your balance sheet gives your financial position at the end of the year. Both are indicators as to how financially healthy you are.

   [6]

4. As with the example in (2) above, calculate the compound interest

   R350 x $(1.1)^5$ –R350 =R213.6725

   [3]

5. What is profit? (2)
   It is the amount of money that you have left over once you have paid all your expenses.

   [20]

1. Find the formula of the following:

    a.

x	1	2	3	4
Y	5	7	9	11

    Formula: *y = 2x + 3*

    b.

x	4	8	12	16
Y	1	2	3	4

    Formula: y = ¼ x

    [6]

2. Write the number that you think should logically follow on the numbers in the following sets:

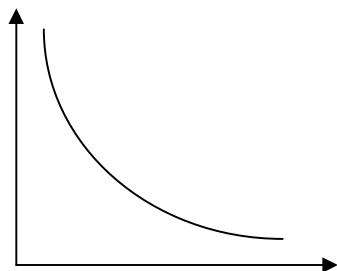   a. 1   1.1   1.21   *1.331*   *1.4641*   (2)

    b. 625   125   5   *5*   *1*   (2)

    [4]
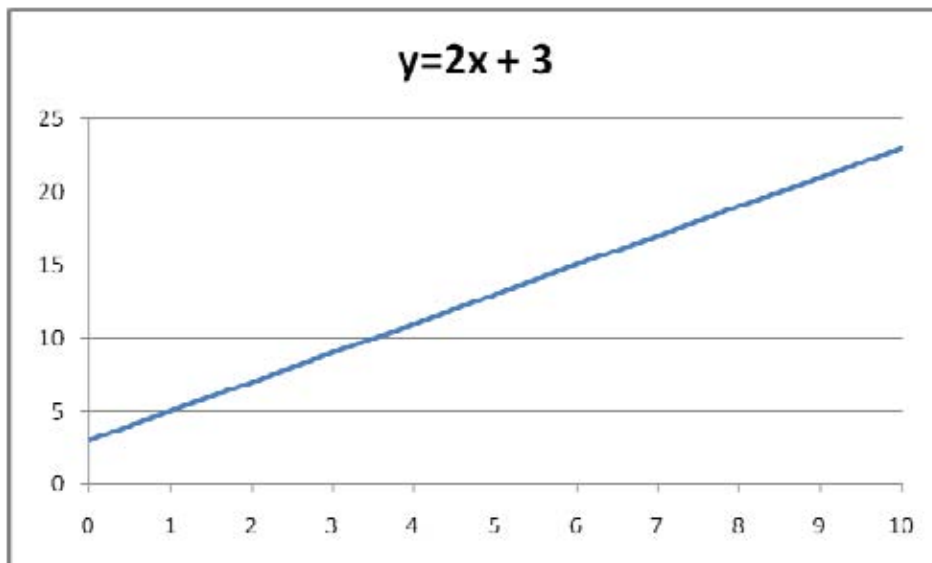
3. State whether the following are direct or inverse relationships:

    a.

    Inverse

b. Speed travelled and time taken to get to destination (2)

Inverse

[4]

4. Sketch the graph of y= 2x + 3

[6]

[20]

1. Represent the following as equations:
   a. Multiply the number by 5 and add 3 (2)
      Y = 5x + 3
   b. Input value → x 7 → -4 → Output value (2)
      Y = 7x -4

   [4]

2. Name three ways of collecting data
   Looking at the organisation's normal operations; Surveys; Databases;

   [3]

3. Why do we use samples? Give one example of a sample.
   It is impossible to interview / survey everyone, therefore we use a sample to approximate.

   [3]

4. Name three forms of graph and what they are used for.
   Bar Graph – Used for comparing data
   Pie chart – Also used for comparing data, that totals a whole
   Line graph – For trends

   [6]

5. What is the difference between discrete data and continuous data?
   Discrete data has definite values e.g. Rands and cents; continuous data can take any value eg. fluids

   [4]
   [20]

1. Given the following data:

60	60	53	65	86	67	71
35	64	20	93	56	43	71

   a. Order the data from smallest to largest (2)

   20; 35; 43; 53; 56; 56; 60; 60; 64; 65; 67; 71; 71; 86; 93

   b. Calculate the mean of the data (4)

   $\frac{\sum f_i}{n}$ *= (20 + 35 + 43 + 53 + 56 + 56 + 60 + 60 + 64 +65 + 67 + 71 + 71 + 86 + 93) ÷ 14*

   = 60.28

   c. Calculate the median of the data (4)

   Median = (60 + 64) ÷ 2 = 62

   d. Calculate the mode of the data (2)

   Bimodal: 60; 71

   e. Calculate the range and interquartile range (8)

   Range = 93 – 20 = 73

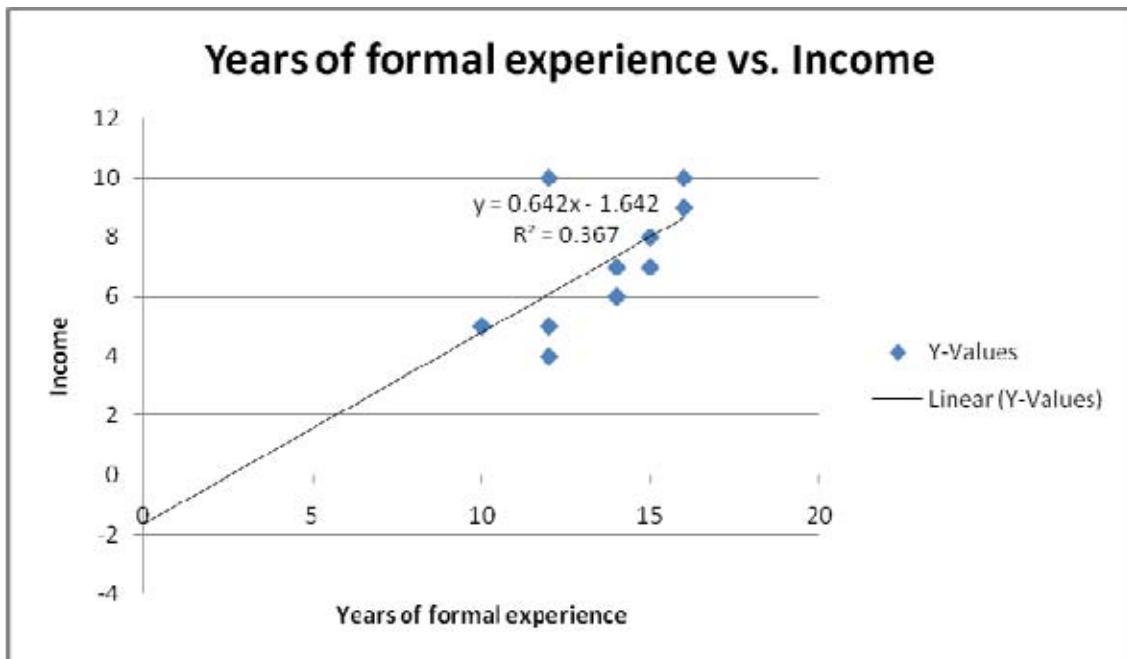   *Interquartile range: Position 3 and Position 11 = 71 -43 = 28*

[20]

1. Given the following data:

Years of formal income	12	10	15	12	16	15	12	16	14	14
Income (R000s)	4	5	8	10	9	7	5	10	7	6

    a. Compile a scattergram for the data (6)

Years of formal experience vs. Income

$y = 0.642x - 1.642$

$R^2 = 0.367$

♦ Y-Values

—— Linear (Y-Values)

Income

Years of formal experience

    b. Add a line that best fits the graph (2)

    c. Comment on the scattergram. Do you think that it is a close fit? Do you notice a trend?

        If so, what? (4)

        There is a trend, however, it is weak. Positive relationship.

[12]

2. Give four features of a bar graph

- *The width of the bars must be exactly the same*

- *The distance between the bars must be exactly the same*

- *The horizontal axis isn't continuous*

- *The axes must be labelled*

- *The graph must be titled*

- *The bar chart can be compound*

[4]

3. Given the data work out the angle that each would occupy on a pie chart. Do not draw it.

Popularity of non-fiction vs. fiction books.

Fiction: 57   Non-fiction: 43

   57 ÷ 100 x 360 = 205.2˚

   43 ÷ 100 x 360 = 154.8˚

[4]

[20]