

**Question One**

**1.1 Calculate:**

- 1.1.1.  $50 - \sqrt{225} \times 7$  (2)
- 1.1.2.  $\frac{1}{2}$  of 22,5 (2)
- 1.1.3.  $14,5 (2 - 0,3) + 4$  (2)
- 1.1.4. the cost of 1 litre of fruit juice if 5 litres cost R 29,95. (2)

**1.2. Convert the following:**

- 1.2.1. 3km to m (2)
- 1.2.2. 5kg to grams (2)
- 1.2.3. £500 to SA rand if £1 = R12,55 (1)
- 1.2.4.  $125^{\circ}\text{C}$  to  $^{\circ}\text{F}$  if  $\text{Temp in } ^{\circ}\text{F} = \text{Temp in } ^{\circ}\text{C} \times \frac{9}{5} + 32^{\circ}$  (3)
- 1.3. A store ordered 1 250 tumblers for a store promotion. If 8% of the tumblers were broken, how many were available for use? (3)
- 1.4. A spares shop bought brake pads at a cost of R2 250. If the owner still has to pay VAT at 14%, what will be the total amount that has to be paid? (3)
- 1.5. Calculate the length of tape needed to go around a cylinder having a radius of 80mm. Round off your answer to the nearest mm. Use the following formula:  
Circumference =  $2 \times \pi \times r$ ; Use  $\pi = 3,14$  (3)

**[25 MARKS]**

**Question Two**

2.1. Elizabeth would like to invest an amount of R7 000 over 10 years. She has to decide between the following options:

**FINWISE FINANCIAL SERVICES**  
Interest Rate  
8% compounded monthly



**MoMoney Financials**  
Interest Rate  
9,5 % compounded annually

- 2.1.1. Calculate the amount that Elizabeth will have after 10 years if she invests with FINWISE FINANCIAL SERVICES. Use the following formula:  $A = P (1 + i)^n$  (4)
- 2.1.2. If she invests with MoMoney Financials, how much will she have in 10 years time. Use the following formula:  $A = P (1 + i)^n$  (3)
- 2.1.3. Based on your calculations above, which company should Elizabeth invest her money with? Give a reason for your answer (2)
- 2.4. Calculate the interest that would accumulate at the end of 10 years, if she invested with MoMoney Financials. Use the following formula:  
Interest = Final Amount – Principal Amount (2)
- 2.5. Explain the difference between an interest rate that is "compounded monthly" against an interest rate that is "compounded annually" (2)
- 2.2. Study the map of South Africa below and answer the questions that follow. The road codes are indicated with by a block with a number placed inside it eg: N7



2.2.1. Which city is:

2.2.1. (a) north of Middelberg (1)

2.2.1. (b) south west from George (1)

2.2.2. State the roads to be used if one is travelling from:

2.2.2. (a) Cape Town to Kimberly (2)

2.2.2. (b) Pietermaritzburg to Port Shepstone (2)

2.3. Name the cities one would pass when travelling along the N1 from

Cape Town to Bloemfontein. (2)

2.4. Name the two routes that intersect at Pretoria. (2)

2.5. A motorist, Mr Zimanze, travelled from Durban to Johannesburg travelling at an average speed of 110km/h. If it took him approximately 5,5 hours to reach his destination, what distance did he cover?

Use the following formula:  $\text{Speed} = \frac{\text{Distance}}{\text{Time}}$  (4)

[27 MARKS]

**Question Three**

Muzi sells small traditional decor at the beachfront as a means of earning his spending money.

The table below shows the cost of the items he sells.



**TABLE 1**

No of Items (P)	0	10	20	30	M	50	100
Cost of Item (C)	30	60	90	120	150	180	N

3.1.1. Complete the following formula:

$C = \dots \times P + \dots$  (2)

3.1.2. Fill in the missing values for M and N (4)

3.1.3. Draw the line graph representing TABLE 1 on the graph paper. (Annexure 1). Indicate this graph with the title: "Cost Graph" (4)

3.2. The table below (Table 2) shows the income Muzi receives from his sales

**TABLE 2**

No of Items Sold (P)	0	10	20	30	P	50	R
Income in Rand (C)	0	40	80	120	160	Q	400

3.2.1. Fill in the values for P, Q and R. (3)

3.2.2. Draw the line graph representing TABLE 2 on the same system of axes as the "Cost Graph" (Annexure 1). Indicate this graph with the title: "Income Graph" (4)

3.3. Use the graphs to answer the following questions:

3.3.1. How many items must Muzi sell to break even? (2)

3.3.2. After selling 10 items, does Muzi make a profit or loss? Give a reason for your answer. (2)

3.3.3. How much profit does Muzi make after selling 70 items? (Formula: Profit = Income - Expenses) (3)

3.3.4. What will happen if Muzi made 50 items but sold only 30? Explain your answer using calculations. (3)

3.4. During the first week Muzi made 4 types of décor items as follows: 25 spears, 15 knobkerries; 20 pots and 30 whistles.

Determine the probability that the items sold were

3.4.1. pots (1)

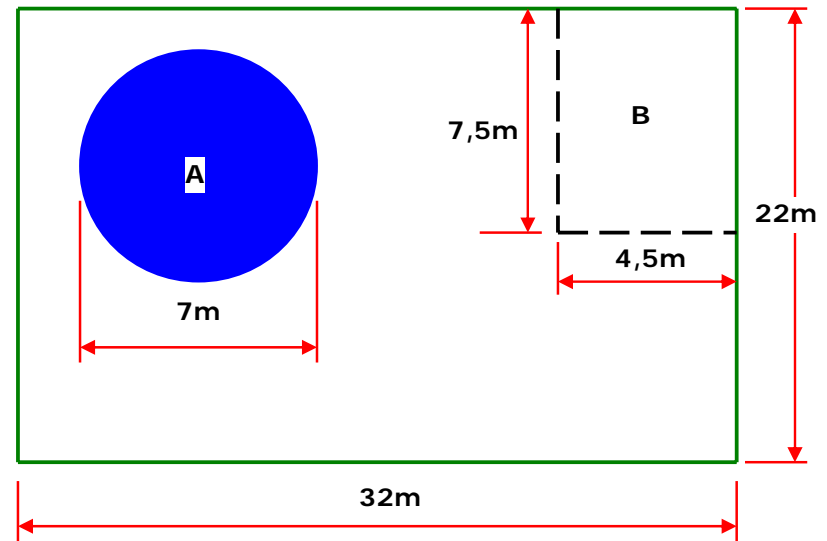
3.4.2. spears (1)

3.4.3. either knobkerries, pots or whistles (3)

**[32 MARKS]**

**Question Four**

Mrs Xulu has purchased a house. The diagram below shows a plan view of her backyard. She intends building a circular pool (A) and a braai area (B) as shown on the diagram.



4.1. Mrs Xulu wants to fence her backyard. Calculate the amount of fencing that she would require.  
(Formula:  $P = 2(L + B)$ ) (3)

4.2. Calculate the volume of the pool, in kilolitres, if it has depth of 4,75m. Round of to the nearest 10.  
(Formula  $V = \pi \times r \times r \times \text{depth}$ ;  $\pi = 3,14$ . Also:  $1\text{m}^3 = 1\text{kl}$ ) (5)

4.2.1. If water fills the tank at a rate of 3,5kl/h, how long will it take for the pool to be filled? (3)

4.3. Mrs Xulu wants to tile the braai area.

4.3.1. Calculate this area.  
(Formula: Area = Length x Breadth) (3)

4.3.2. Work out the cost of tiling this area if it costs R195,95/m<sup>2</sup> to tile (including labour). (3)

4.4. To complete the look of her backyard, Mrs Xulu wants to have grass grown around the pool and braai areas.

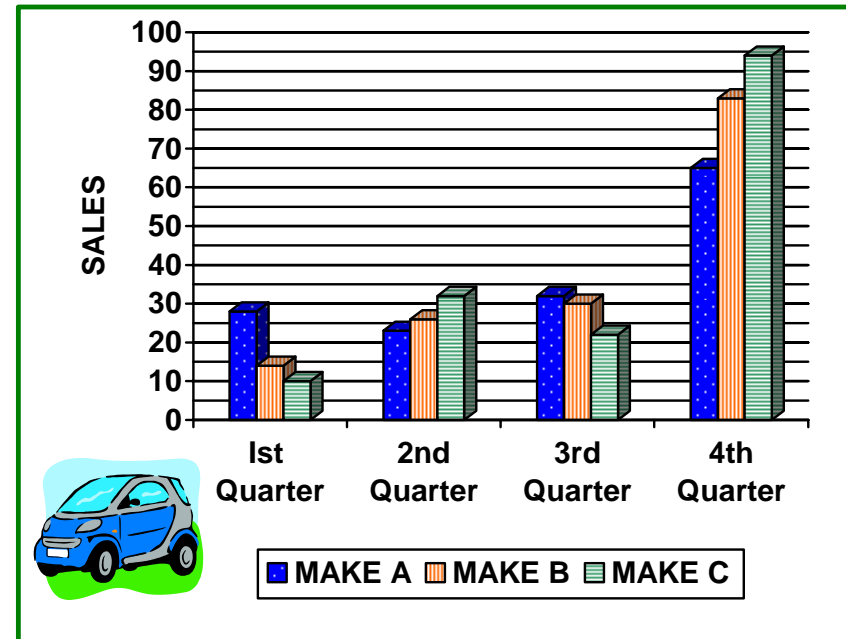
4.4.1. Calculate the area that the grass must cover.  
(Formula: Area of circle:  $A = \pi \times r \times r$ ;  $\pi = 3,14$ ) (7)

4.4.2. She received a quote for R15 500 for her lawn and was told that she would receive a 15% discount if she paid cash. Since Mrs Xulu has the cash, what amount will she pay to the contractors? (3)

**[27 MARKS]**

**Question Five**

5.1. The graph below shows the car sales of three makes of cars for the quarters over the last year.



5.1.1. How many units of Make A was sold in the second quarter? (1)

5.1.2. Which make of car had the lowest number of sales in the third quarter? (2)

5.1.3. Compare the sales in the first and last quarters. Suggest a reason for this trend. (2)

5.2. The table below shows the number of vehicles passing 2

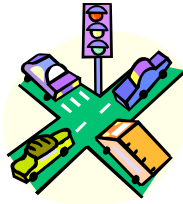
intersections over a ten hour period; from the morning till afternoon.

**Intersection A**

Time (H)	Number of Cars
7-8	351
8-9	245
9-10	102
10-11	100
11-12	235
12-13	245
13-14	96
14-15	155
15-16	210
16-17	332

**Intersection B**

Time (H)	Number of Cars
7-8	455
8-9	325
9-10	92
10-11	107
11-12	344
12-13	378
13-14	89
14-15	289
15-16	325
16-17	468



**Question Six**

The World Health Organization released this report in 2004 concerning tuberculosis (TB).



REGION	Numbers (Measured in thousands)	Per 100 000 of the population
Africa	2 573	356
The Americas	363	41
Eastern Mediterranean	645	122
Europe	445	50
South-East Asia	2967	182
Western Pacific	1925	111
GLOBAL	8918	140

- 5.2.1. Calculate the mean number of cars passing each intersection. (6)
- 5.2.2. Calculate the median for Intersection A. (4)
- 5.2.3. Which intersection is busier between during the first hour of the day? (1)
- 5.2.4. State the mode of intersection B. (2)
- 5.2.5. If the city council only has a budget to install robots at one of the intersections, which would you recommend? Give a reason for your answer. (2)

6.1. How many people had TB infections in:

- 6.1.1. Africa (2)
- 6.1.2. Western Pacific (2)

6.2. Which region had the lowest number of infections per 100 000 of the population? (2)

6.3. If the rate of infection in Africa was predicted to increase by 12% in 2005; what was the projected number (in thousands)? (3)

6.4. What percentage of the global infection rate (measured in thousands) did South East Asia account for? (3)

**[20 MARKS]**

6.5. If a random count of 200 000 people was done in Europe, how many people would be expected to suffer from TB? (2)

6.5.1. What percentage of the people sampled would be expected to suffer from TB? (2)

6.6. A person claimed that in her country, South East Asia, in an independent survey, she reported 46 infections. According to the statistics and the data at hand, approximately how many people do you think were sampled? (3)

**[19 MARKS]**

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**TOTAL : 150 MARKS**