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GRADE 12 MATHS LITERACY

PAPER 1

NOVEMBER 2011

TOTAL: 150

TIME: 3 HOURS

INSTRUCTIONS

1. This question paper consists of 7 questions. Answer all the questions.
2. Number the answers correctly according to the numbering system used in this question paper.
3. An approved calculator (non-programmable and non-graphical) may be used, unless stated otherwise.
4. All calculations must be clearly shown.
5. All the final answers must be rounded off to two decimal places, unless stated otherwise.
6. Units of measurement must be indicated where applicable.



QUESTION 1:

1.1 Simplify the following. Show all the relevant calculations.

1.1.1 $\frac{3}{5} \div \frac{9}{25} + \sqrt{144}$ (3)

1.1.2 $\frac{4,15 \times 25,63}{5,95}$ (2)

1.1.3 100 cm : 2 500 m, in cm. (2)

1.2 Convert

1.2.1 1,15 to a percentage (2)

1.2.2 142% to a decimal fraction (2)

1.2.3 R14 000 to \$ if \$1 = R7,45 (2)

1.2.4 3750 m to cm (2)

1.3 Calculate the following.

1.3.1 $6\frac{1}{4}\%$ of R750 000 (2)

1.3.2 Robert bought a house for R350 000 and sold it after three years for R475 000. Use the following formula to calculate the percentage profit made on the house.

$$\text{Percentage profit} = \frac{\text{selling price} - \text{cost price}}{\text{cost price}} \times 100\%$$

(2)

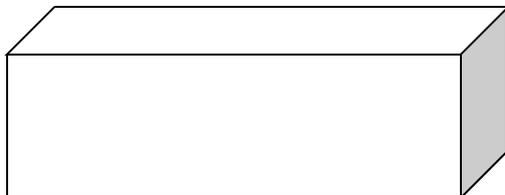
1.4 Casual workers employed by an electronic company is paid R25,10 per hour. The following formula can be used:

$$\text{Daily payment} = \text{hourly rate} \times \text{number of hours worked}$$

1.4.1 If a casual worker gets paid R213,35, for how many hours did the worker work? (2)

1.4.2 How much will the casual worker earn if he works for 3 days? Each working day consists of $7\frac{1}{2}$ hours. (3)

1.5





The dimensions of the given container are:
Length = 65 cm, breadth = 25 cm and height = 16 cm.

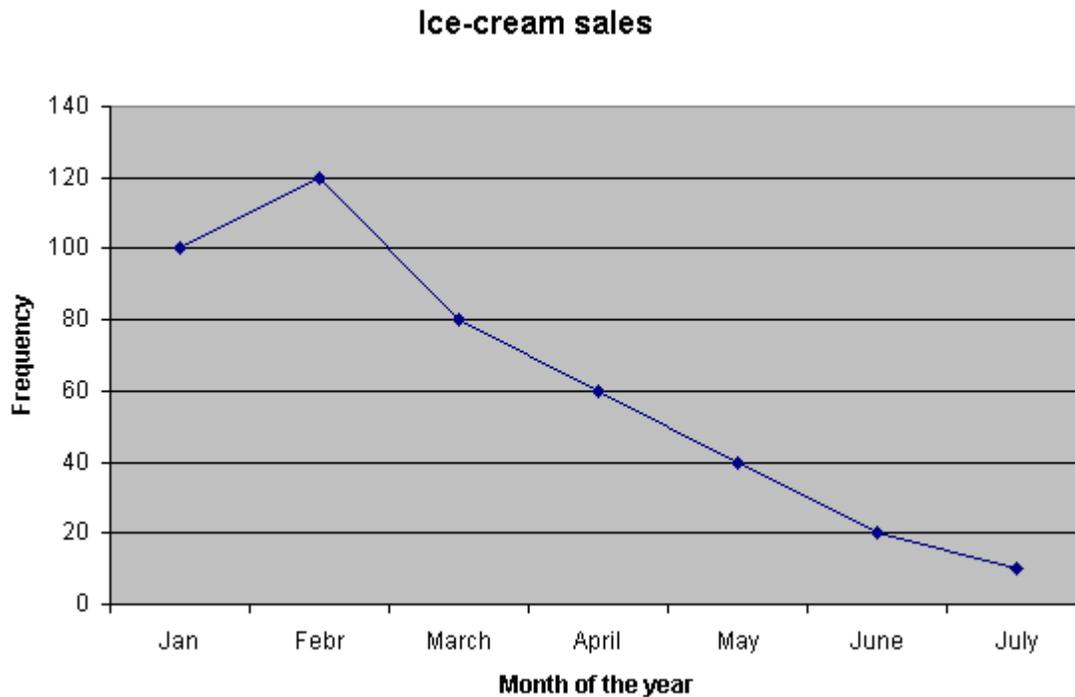
1.5.1 Determine the volume of the container. Use the following formula:

$$\text{Volume} = \text{length} \times \text{breadth} \times \text{height} \quad (2)$$

1.5.2 If the container does not have a lid, calculate the surface area of the container by using the following formula:

$$\text{Total surface area} = (L \times B) + 2(L \times H) + 2(B \times H) \quad (2)$$

1.6 The following graph shows the ice-cream sales at a tuck shop on the beach.



1.6.1 During which month were the sales the highest?

(1)

1.6.2 How many ice-creams were sold in April?

(1)

1.6.3 During which month did they sell 20 ice-creams?

(1)

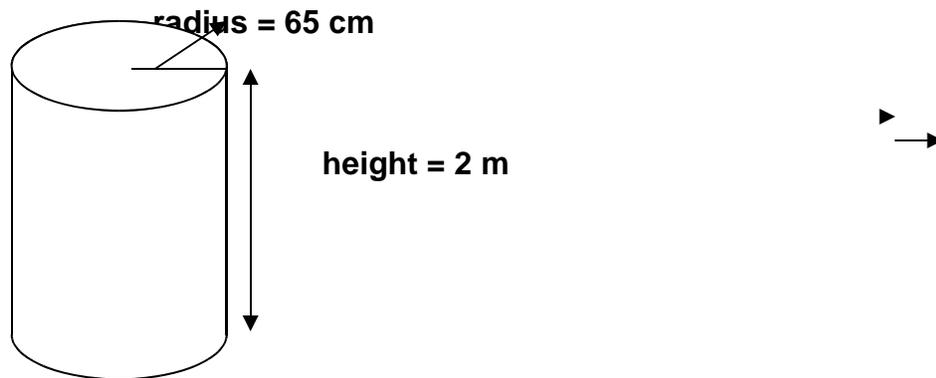


1.6.4 If an ice-cream costs R6,50 determine how much money did the tuck shop owner received for ice-creams during the month of March? (2)

[33]

QUESTION 2:

2.1



2.1.1 Convert the height to cm. (1)

2.1.2 Calculate the volume of the cylinder in cm^3 .

Volume of a cylinder = $\pi r^2 \times h$ (2)

2.1.3 If $1\ 000\ \text{cm}^3 = 1\ \text{l}$, how many litres of water will the cylinder hold? (1)

2.2 The ingredients for $1\ \frac{1}{2}$ litre of ginger beer are as follows:

750 ml Water
500 ml Sugar
50 ml ground ginger

2.2.1 Write down the ratio of the water : sugar : ground ginger in the simplest form. (2)

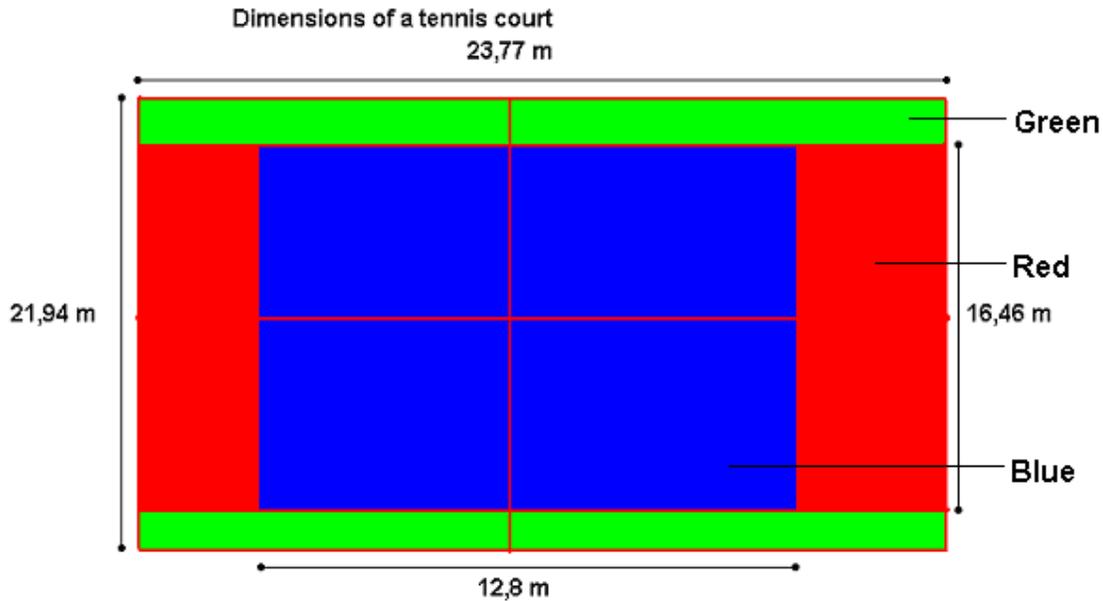
2.2.2 How much water, sugar and ground ginger would be needed to make $4\ \frac{1}{2}$ litres of ginger beer? (3)

2.2.3 How much ground ginger will be needed if 9 litres of ginger beer is made? (2)

2.2.4 The bottles that will be used to store the ginger beer, has a capacity of 750 ml. How many bottles will be needed to store 9 litres of ginger beer? (2)



- 2.3 Researching was done on the outlay of a tennis court. It was proposed to use different colours to indicate the different sections on the court. See the diagram below.



- 2.3.1 What is the width of a green strip? (2)
- 2.3.2 Determine the area of one green strip. (2)
- 2.3.3 If one tin of green paint can cover 25 m^2 , how many tins would be needed to paint the green strips. (2)
- 2.3.4 If one tin of green paint costs R143, what is the cost to paint the green strips? (2)
- 2.3.5 The area of the red blocks is $90,28 \text{ m}^2$. Red paint cost R152 per tin and 4 tins will cover the area. How much will the red paint costs? (2)
- 2.3.6 The area of the blue blocks is $105,34 \text{ m}^2$ and if the cost for the blue paint is R632, how many tins were bought if a tin blue paint costs R158? (2)
- 2.3.7 Determine the total cost involved in painting the tennis court in different colours. (2)

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QUESTION 3:

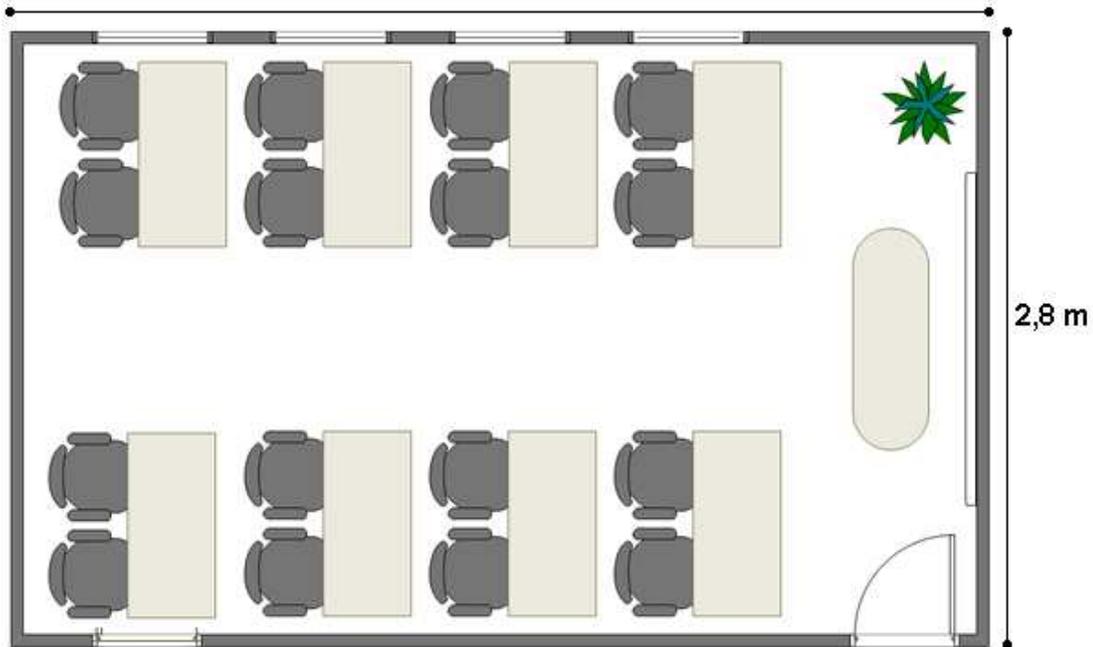
- 3.1 Mrs Marais stays in Cherry Drive and there are two schools close to her home. Use the map to answer the questions.



- 3.1.1 Describe a possible route to follow when going from Mrs Marais's house to Virgin active. (4)
- 3.1.2 Name the two schools close to Mrs Marais's house. (2)
- 3.1.3 Use a ruler and measure the shortest distance, in mm, between the two schools. (2)
- 3.1.4 Mrs Marais works at Virgin Active and leaves for work at 7h00. She travels at a speed of 55 km/h and the journey takes her 5min. What is the distance that she travels to work?
- Formula: Distance = Speed x time (2)
- 3.2 The layout for a classroom is given. The dimensions of each table are 600mm x 1600 mm.



6,5 m



- 3.2.1 If 1 000 mm = 1 m, determine the area that the tables will cover.
(4)
- 3.2.2 Calculate the floor area of the classroom.
(2)
- 3.2.3 If each student needs 0,9 m² to sit comfortable without using tables, how many students will be able to fit in this office classroom?
(2)
- 3.2.4 The oval table needs to be edged again. If the perimeter of the table is 2,16 m, calculate the cost of the edging at R5,14 per meter.
(2)
- 3.2.5 The carpet must be replaced. The cost of the new carpet is R340 per square metre. Work out the cost of the new carpet.
(2)
[22]

QUESTION 4:

4.1 A few grade 12 learners in a school decided to collect donations for the less fortunate. The table represents the amount they collected in a week.

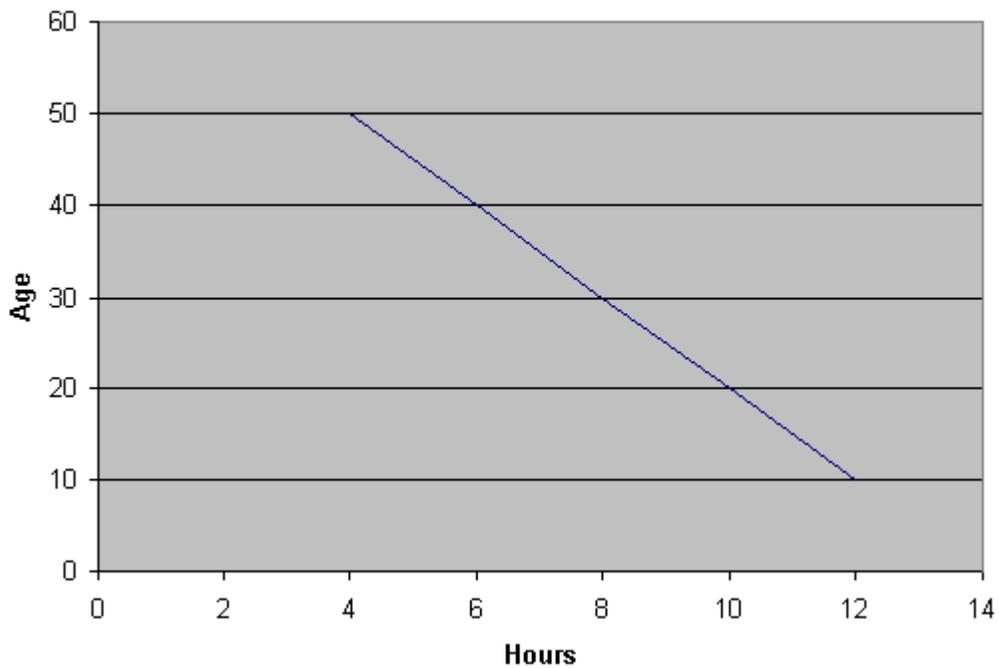
Name	Ann	Joe	Shai	Ben	Chloe	Mel	Eve	John	Di	Mary	Pete
Amount	R35	R44	R46	R97	R125	R58	R65	R103	R20	R65	R78

- 4.1.1 How much money did they collect all together?
(2)



- 4.1.2 Determine the (2)
- 4.1.2.1 mean (2)
- 4.1.2.2 mode and the (2)
- 4.1.2.3 median (2)
- 4.1.3 Who collected an amount closest to the median? (2)
- 4.1.4 If the students repeat this collection four times, how much money will they have to donate to the less fortunate? (2)
- 4.2 The amount of sleep needed by different age groups were recorded and documented in a graph.

Hours sleep per day



4.2.1 Complete the given table.

Percentile	Hours
10 th percentile	
25 th percentile (Q_2)	
50 th percentile (median)	
75 th percentile (Q_3)	
90 th percentile	

(10)

4.2.2 How many hours does a 30-year-old person need to sleep per day?



- 4.2.3 Describe the relation numbers of hours: age. (2)
(2)
[26]

QUESTION 5:

- 5.1 Thabo was looking for a job and was offered a position at two different companies. He needed to make a decision based on the daily wages offered.

Company A

Daily wage = R220 + R30 × number of hours worked

Company B

Hourly rate = R75 from Mondays to Fridays

Hourly rate = R150 on Saturdays

Working hours per week

Days	Mo	Tues	Wed	Thurs	Fri	Sat
Company A	0	4	6	4	6	3
Company B	4	4	4	4	4	3

- 5.1.1 Calculate the amount Thabo will receive per week at the different companies. (4)
- 5.1.2 Calculate the difference in daily wages on a Wednesday. (2)
- 5.1.3 Calculate the difference in daily wages on a Saturday. (2)
- 5.1.4 Which position should Thabo take if Company B works only every second Saturday? Give a reason. (2)
- 5.2 Peter wants to invest R100 000 for three years.
- 5.2.1 Calculate the simple interest that he will receive if he invest the R100 000 at 10% p.a. (3)
- 5.2.2 Calculate the compound interest that he will receive if he invest the R100 000 at 10% p.a. (3)
- 5.2.3 Which investment will be the best option? (1)
[17]

QUESTION 6:



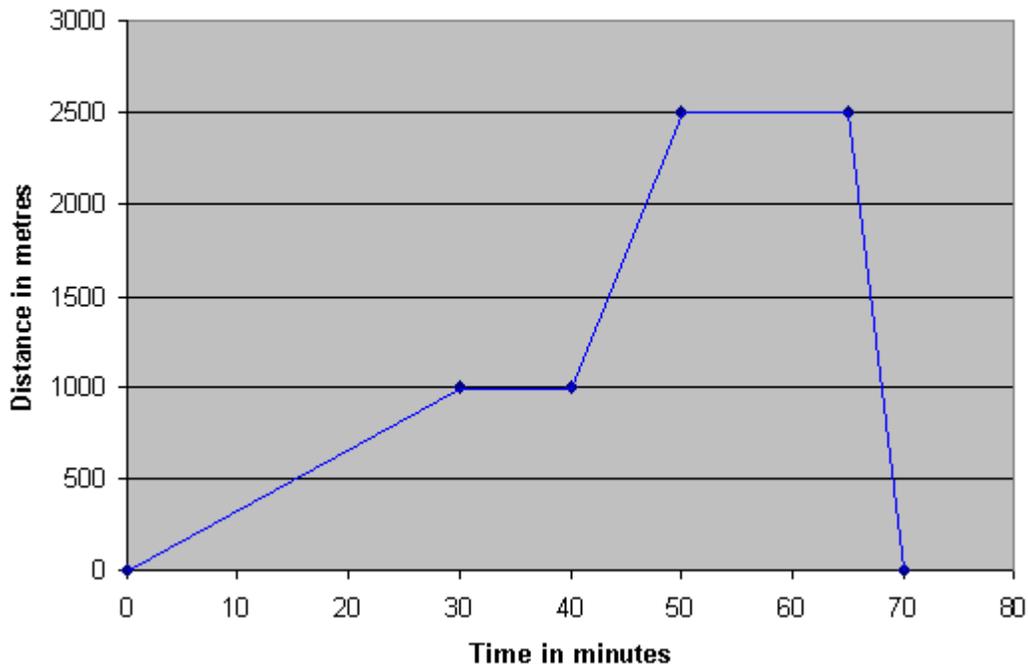
Use the graph below to answer the following questions.

- 6.1 How many minutes did the biker take to complete the trial? (1)
- 6.2 How many minutes did the biker rest? (2)
- 6.3 How far was the biker after 40 minutes? (2)
- 6.4 How long did the journey from the 2 500m mark take? (2)
- 6.5 How far was the biker after 30 minutes? (2)
- 6.6 If the race started at 8h10, what time did the biker reach the 2500 m mark? (2)
- 6.7 If the biker took 30 min to the first resting spot, calculate the average speed for the biker during the first 30 minutes. (2)

Formula:

$$\text{Average speed} = \frac{\text{distance travelled}}{\text{time}}$$

Mountainbike Trail





QUESTION 7:

Bank statement - Savings account			
Client: Mr A. N. Lucky		Statement Date: 2011/05/30	
Address: 23 Blossom Rd		Acc Number: 5678	
Johannesburg			
Date	Details	Amount	Balance
2011/05/01	Balance		R7 895
2011/05/01	Stop Order-Insurance	R340	R7 555
2011/05/01	Transaction fee	R6	R7 549
2011/05/02	ATM Withdrawal	R1 200	R6 349
2011/05/02	Transaction fee	R5	R6 344
2011/05/10	Cash Deposit	R2 300	R8 644
2011/05/10	Transaction fee	R25	R8 619
2011/05/25	Stop order - Rent	R5 500	R3 119
2011/05/25	Transaction fee	R6	R3 113

Use the given bank statement to answer the following questions.

- 7.1 Determine the banking fees for this period. (1)
- 7.2 How much money was spent on stop order payments?
(2)
- 7.3 What amount of money was paid into the account?
(1)
- 7.4 What would the final balance have been is there were no payments made during this period? (2)
- 7.5 Mr Lucky wants to buy a music centre for R3313. Does he have enough money to buy the music centre cash?
(1)
- 7.6 Will it be cheaper to pay accounts by stop order or using cash? (1)
- 7.7 If Mr Lucky has an inquiry regarding his account, which number should he give to the information centre?
(1)
- 7.8 Another bank does not use a flat rate for deposits. A formula is used to determine the banking fee for deposits. If Mr Lucky had an account at that particular bank, what would the banking



fee for the deposit be?

33](3)

Formula:

Banking fee = R2,50 + 0,9% of the amount deposited

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TOTAL: 150