



**education**

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Department:  
Education  
PROVINCE OF KWAZULU-NATAL

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 10**

**MATHEMATICAL LITERACY P1**

**COMMON TEST**

**JUNE 2018**

**MARKS: 50**

**TIME: 1 hour**

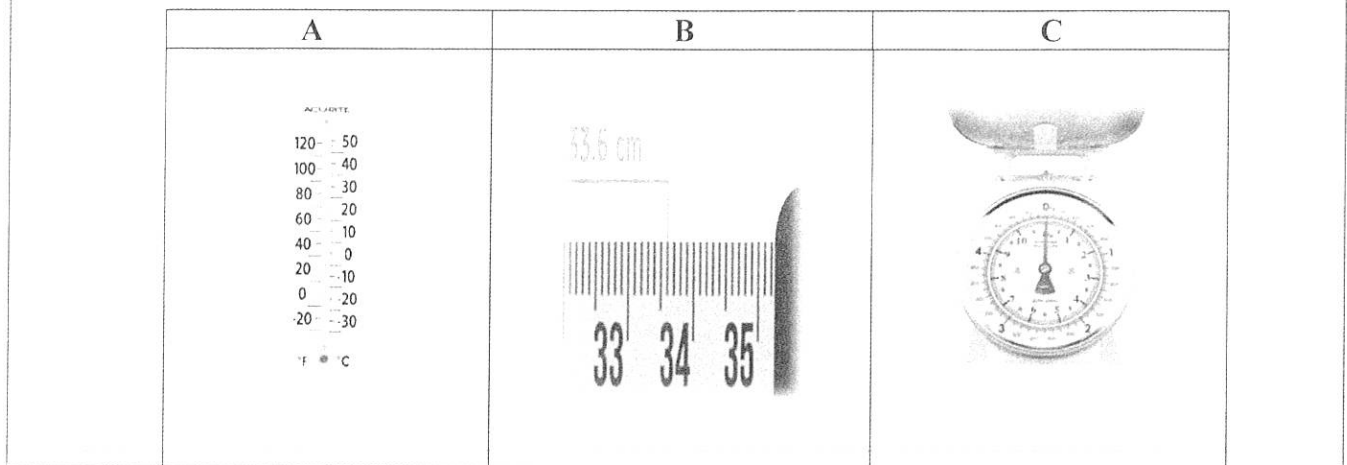
This question paper consists of 5 pages and 1 annexure.

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of THREE questions. Answer ALL the questions.
2. Use ANNEXURE A to answer question 3.1.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical). Unless stated otherwise.
6. Show ALL the calculation clearly.
7. Round off ALL the final answers appropriately according to the given context, unless stated otherwise.
8. Indicate units of measurements, where applicable.
9. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

**QUESTION 1**

- 1.1 Use the pictures below to determine what each instrument is used to measure. Write only a number and the corresponding letter e.g. 1.1.1 B

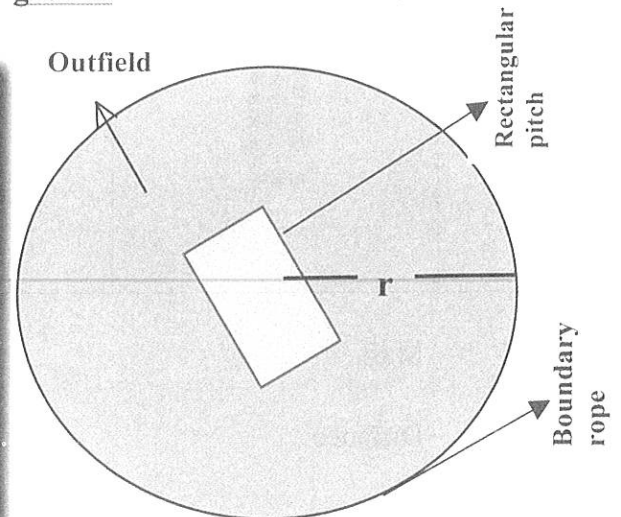


- 1.1.1 Mass (2)
- 1.1.2 Distance (2)
- 1.1.3 Temperature (2)
- 1.2 Amos buys a pack of 120 sweets for R42,20 and sells them to make profit.
- 1.2.1 Calculate the cost price of ONE sweet in the packet. (2)
- 1.2.2 If Amos makes the profit of 15 cents (15c) per sweet in sales.
- a) How much in rands will he earn as profit for selling ALL sweets in the packet? Give your answer in Rands. (3)
- b) Determine his income for selling ONE sweet. (2)
- 1.2.3 Amos placed the sweets in a box containing 5 vanilla sweets, 8 chocolate sweets and 7 mint sweets flavours.
- Choose the probability either IMPOSSIBLE, LIKELY, UNLIKELY or CERTAIN of picking a Vanilla sweet at randomly. (2)
- 1.2.4 A pack of sweets weighs 400g, convert the mass of a pack into kilograms. (2)

[17]

**QUESTION 2**

The Kingstown Secondary School intends to rehabilitate their cricket field for upcoming winter seasons games. Study the diagram below and answer the questions that follow.

**The school cricket ground Picture****The dimensions of the school cricket ground**

The length of the pitch is 22,56m and the breadth is 3,05m

The radius of the circular field is 68,75m

- 2.1 Define the term Perimeter (2)
- 2.2 Calculate the perimeter of the pitch. You may use the formula:  
 $P = 2(\ell + b)$ , where  $\ell$  = length and  $b$  = breadth (2)
- 2.3 The school decided to use an artificial pitch with an overlaid coir mat on top of the cricket pitch.  
 Determine the area of the mat pitch to be bought in square metres.  
 Use the formula :
- Area of a rectangle =  $\ell \times b$**  (2)
- 2.4 Calculate the area to be grassed on an outfield pitch in square metres.  
 Use the formula: **Outfield Area =  $\pi r^2$  - Area of the pitch**, use  $\pi = 3,142$  (4)
- 2.5 The total circumference of the school cricket ground is measured to be 500m, around the field.  
 Determine the cost for the rope, if it is sold for R110,00 per 50m roll (4)

**[14]**

**QUESTION 3**

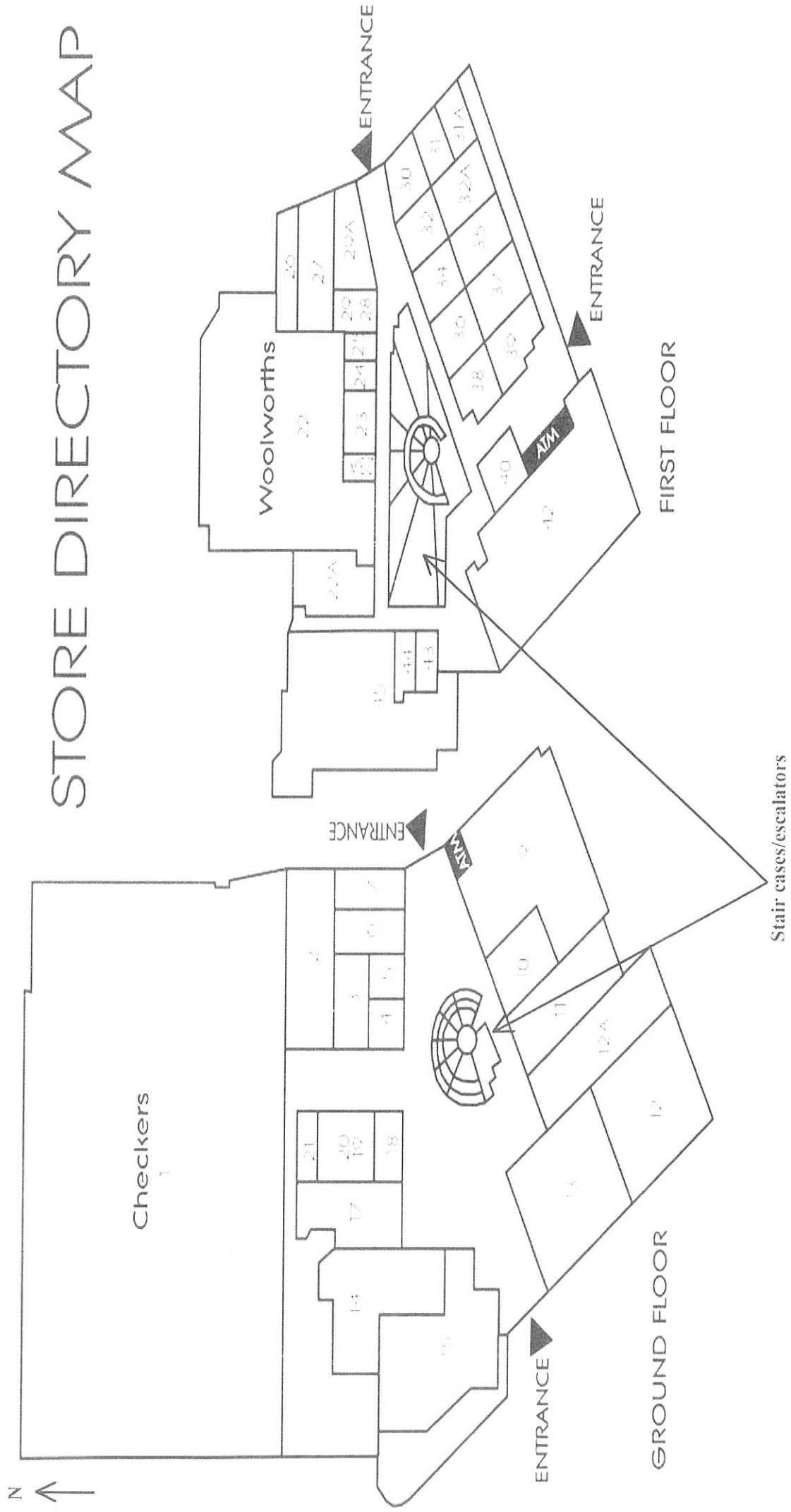
Nashem's family visited Mill side mall over a weekend. The store directory map is provided in ANNEXURE A. Study the map and answers the questions that follow.

- 3.1 How many entrances are there in the mall? (2)
- 3.2 In which floor would you locate shop number 23? (2)
- 3.3 The southern length side of the Checkers is 3,6cm on the paper and 54m in reality.  
Determine the scale used to draw the map in the form of 1 : ... (3)
- 3.4 Nashem's is looking at the floor plan just opposite shop 29A, describe how she can reach her friend who is in the ATM on the first floor. (3)
- 3.5 Write down the probability that Nashem's family will shop on shop number 8 on this mall. (2)
- 3.6 Bongani works as a cashier in one of the stores at the mall. He purchased a grocery for R204,22 VAT exclusive of 15% in May 2018.
- 3.6.1 What does VAT stand for? (2)
- 3.6.2 Determine how much more in rand for VAT he paid compared to the 14% VAT in March 2018 for the same cost of items? (5)

**[19]****TOTAL: 50**

ANNEXURE A

Question 3.1





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**MARKING GUIDELINE**

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SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy (Answer)
C	Conversion
S	Simplification
RT/RG/RD	Reading from a table/ graph/ diagram
NPR	No penalty for units/rounding
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example
J	Justification
R	Rounding off/
F	deriving a formula
E	Explanation
U	Units
AO	Answer only full marks

This marking guideline consists of 4 pages.

**QUESTION 1 [17]**

QUE	SOLUTION	EXPLANATION	TL
1.1.1	C✓✓A	2A, Answer	M L1
1.1.2	B✓✓A	2A, Answer	M L1
1.1.3	A✓✓A	2A, Answer	M L1
1.2.1	Cost price per sweet = $\frac{R42,20}{120} \checkmark M$ = R 0,35✓A <b>OR</b> Cost price per sweet = 35c✓✓MA	1M, Method dividing R42,20 by 120 1A, Answer	F L1
1.2.2	a) Profit per packet = $120 \times 15 \checkmark M$ = $\frac{1800 \text{cents}}{100} \checkmark C$ = R18,00✓A <b>OR</b> $\checkmark C$ $\checkmark M$ Profit per packet = R0,15 × 120 = R18,00✓A	1M, Method, multiplying correct values 1C, Dividing by 100 1A, Answer <b>OR</b> 2M, Multiplying by R0,15 by 120 1A, Answer	F L1
b)	Income = R0,35 + R0,15 = R0,50✓CA <b>OR</b> Income = $35c + 15c$ = 50c✓CA	From 1.2.1 1M, adding cost price and profit 1CA, <b>OR</b> 1M, Adding cost price and profit 1CA, <b>AO</b>	F L1
1.2.3	Unlikely✓✓A	2A, Answer	P L1
1.2.4	Mass in kg = $\frac{400 \text{g}}{1000} \checkmark M$ = 0,4kg✓A	1M, Dividing by 1000 1A, Answer <b>AO</b>	M L1
			<b>[17]</b>

## QUESTION 2 [14]

QUE	SOLUTION	EXPLANATION	TL
2.1	Perimeter is the total length/distance around the edges of an object. OR Total measurement around the boundaries of the shape. ✓✓E	2E, Explanation	M L1
2.2	$P = 2(22,56 + 3,05) \checkmark$ SF $= 51,22m \checkmark$ CA OR $P = 22,56m + 3,05m + 22,56m + 3,05m$ $= 51,22m \checkmark$ CA	ISF, Substitution to a formula ICA, Answer OR IMA, Adding two lengths and 2 width ICA, Answer	M L2
2.3	Area of the pitch = $22,56m \times 3,05m \checkmark$ SF $= 68,81m^2 \checkmark$ CA	ISF, Correct Substitution ICA, Answer AO	M L1 (2)
2.4	Area to be grassed = $3,142 \times (68,75m)^2 - 51,22m^2$ $= 14\,799,639 \checkmark$ S $\approx 14\,799,64 m^2 \checkmark$ CA	ISF, Correct substitution into a formula IMCA, subtracting $51,22m^2$ IS, Simplification ICA, Rounding	M L2 (2)
2.5	Number of rope rolls = $\frac{500m \checkmark}{50m}$ $= 10 \text{ rolls} \checkmark$ A Cost of rope rolls = $R110 \times 10 \checkmark$ MCA $= R1\,100 \checkmark$ CA	IM, Dividing by 50m IA, Answer number of rope rolls IMCA, Multiplying by price ICA, Answer	F L2 (4)
			<b>[14]</b>

## QUESTION 3 [19]

QUE	SOLUTION	EXPLANATION	TL
3.1	4 entrances ✓✓RD	2RD, Answer	MP L1 (2)
3.2	First floor ✓✓RD	2RD, Answer	MP L1 (2)
3.3	$3,6cm : 54\,000cm \checkmark$ MA $\checkmark$ A $1 : 1\,500 \checkmark$ A OR $0,036m : 54m \checkmark$ MA $\checkmark$ CA $1 : 1\,500 \checkmark$ A	IMA, Conversion 5400cm IA, Correct ratio order IA, Unit ratio OR IMA, conversion 0,036m IA, Correct ratio order IA, Unit ratio	MP L2 (3)
3.4	Nashem's needs to go towards the direction of the ✓E escalators and turn left just after shop 38, she will meet her friend at the ATM opposite shop number 39. ✓E	3E, Explanation	MP L2 (3)
3.5	$0 \checkmark \checkmark$ A OR $0\% \checkmark \checkmark$ A	2A, Answer 2A, Answer	P L1 (2)
3.6.1	Value – Added-Tax ✓✓A $0\% \checkmark \checkmark$ A	2A, Answer	F L1 (2)
3.6.2	VAT in (March) = $\frac{14}{100} \times R204,22 \checkmark$ M $= R28,59 \checkmark$ A VAT in (May) = $\frac{15}{100} \times R204,22 \times R204,22$ $= R30,63 \checkmark$ MA Difference in VAT = $R30,63 - R28,59 \checkmark$ MA $= R2,04 \checkmark$ A OR VAT difference = $15\% - 14\%$ $= 1\% \checkmark$ A VAT = $\frac{1}{100} \times R204,22 \checkmark \checkmark$ M $= R2,04 \checkmark$ A	IM, 14% of R204,22 IA, Answer IMA, R30,63 IMA, difference IA, Answer IM, difference in % for 1% IA, 2M, multiply by 1% IA, Answer	F L3 (5)
<b>TOTAL</b>			<b>[19]</b> <b>150</b>