FINAL

KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL
SENIOR CERTIFICATE

GRADE 12

# MATHEMATICAL LITERACY P2

## COMMON TEST

## MARKING GUIDELINE

## JUNE 2023

**MARKS: 100**

| Symbol | Explanation |
|---|---|
| M | Method |
| M/A | Method with Accuracy |
| CA | Consistent Accuracy |
| A | Accuracy (Answer) |
| AO | Answer only full marks |
| C | Conversion |
| S | Simplification |
| RT / RG / RM/RP | Reading from table / Reading from graph / Reading from map/Reading from plan |
| F | Choosing the correct formula |
| E | Explanation |
| D | Correct definition |
| SF | Substitution in formula |
| O | Opinion |
| J | Justification |
| P | Penalty e.g. for no units, incorrect rounding, etc |
| R | Rounding off / Reason |

**This marking guideline consists of 7 pages**

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| QUESTION 1 [22 MARKS] | | | |
|---|---|---|---|
| **Ques** | **Solution** | **Explanation** | **T&L** |
| 1.1.1 | Rail map✓✓RM | 2RM correct answer<br>**Accept Route map**<br>(2) | MP<br>L1 |
| 1.1.2 | 1 route✓✓RM | 2RM correct answer<br>**Accept 3** (2) | MP<br>L1 |
| 1.1.3 | South East✓✓A | 2A correct answer<br>(2) | MP<br>L1 |
| 1.1.4 | 8✓✓RM | 2RM correct answer<br>(2) | MP<br>L1 |
| 1.1.5 | Sandton✓✓, Marlboro ✓RM | 3RM correct answer<br>**Penalty for every incorrect answer**<br>(3) | MP<br>L1 |
| 1.2.1 | Busy time in the morning /afternoon when most people are going to/from work or school ✓✓E | 2E correct explanation<br>(2) | M<br>L1 |
| 1.2.2 | 24-hour time format ✓✓A | 2A correct answer<br>(2) | M<br>L1 |
| 1.2.3 | Every 12 minutes✓✓RM | 2RM correct answer<br>(2) | M<br>L1 |
| 1.2.4 | ✓RT<br>Time taken = 05:43 – 5:32✓M<br>= 11 minutes✓CA | 1RT correct reading from table<br>1M subtracting<br>1CA answer<br>Accept any of the 4 times given from Rhodes Field to Sandton (3) | M<br>L1 |
| 1.2.5 | Time in seconds = 11 × 60✓C<br>= 660 ✓CA | **CA from Q1.2.4**<br>1C multiply by 60<br>1CA answer<br>(2) | |
| | | **[22]** | |

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| QUESTION 2 [25 MARKS] | | | |
|---|---|---|---|
| **Ques** | **Solution** | **Explanation** | **T&L** |
| 2.1.1 | Distance chart✓✓A | 2A correct answer (2) | MP L1 |
| 2.1.2 | National road✓✓E | 2E correct type of road (2) | MP L1 |
| 2.1.3 | Travel time is quicker✓✓O | 2O opinion (2) | |
| 2.1.4 | 769 km✓✓RM | 2RM correct distance (2) | MP L3 |
| 2.1.5 | ✓RM<br>Distance = 1 753 – 1 402✓MA<br>= 351 km✓CA | 1RM correct distance<br>1MA subtracting 1402<br>1CA answer (3) | MP L2 |
| 2.2.1 | Bar/Line scale✓✓A | 2A correct answer (2) | MP L2 |
| 2.2.2 | 1,9cm = 250km✓✓A<br><br>1,9 cm on the map represents 250 km in reality✓✓E | 2A measuring bar<br>Accept 1.8cm to 2cm<br><br>2E correct answer (4) | MP L2 |
| 2.2.3 | Line scale: 1,9 cm: 250km<br><br>✓A ✓MCA<br>Actual distance = (8,9cm × 250) ÷ 1,9✓MCA<br><br>= 1 171,05 km✓CA | **CA from Q2.2.2**<br>1A correct distance<br>1MCA multiplying by 250<br>1MCA dividing by 1,9<br>1CA answer<br>**Accept 8,8 to 9 cm NPR** (4) | MP L2 |
| 2.2.4 | Line OR Bar scale✓✓A<br><br>A bar or line scale is more accurate because it will change in proportion if a map is resized. ✓✓O | 2A correct answer<br><br>2O explanation<br><br>(4) | MP L2 |
| | | **[25]** | |

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| QUESTION 3 [30 MARKS] | | | |
|---|---|---|---|
| **Ques** | **Solution** | **Explanation** | **T& L** |
| 3.1.1 | Length of the living area = 20feet - 3,9feet✓MA<br>= 16,1feet✓A<br>= 16,1 × 0,3048✓C<br>= 4,90728m✓CA | 1MA subtracting 3,9 feet<br>1A correct answer<br>1C conversion<br>1 CA correct length | M<br>L4 |
| | Width of the living area = 8 ×0,3048m<br>= 2,4384 m✓CA | 1CA correct width | |
| | Living area = 4,90728m ×2,4384 m✓SF | 1SF correct substitution | |
| | = 11,96591155m$^2$✓CA | 1CA correct area | |
| | Statement is INCORRECT✓O | 1O explanation | |
| | **OR** | **OR** | |
| | Width of the container = 8 ×0,3048m✓C<br>= 2,4384 m✓A | 1C conversion<br>1A correct answer | |
| | Length of the container = 20 ×0,3048m<br>= 6,096 m | | |
| | Width of the toilet = 3,9 ×0,3048m<br>= 1,18872 m | | |
| | Area of container = 6,096 × 2,4384 m✓SF<br>= 14,8644864 m$^2$✓CA | 1SF correct substitution<br>1 CA correct area | |
| | Area of toilet = 2,4384 m × 1,18872 m<br>= 2,898574848 m$^2$✓CA | 1CA correct area | |
| | Living area = 14,8644864 m$^2$ - 2,898574848 m$^2$✓MCA<br>= 11,96591155m$^2$✓CA | 1 MCA subtracting<br>1CA correct area | |
| | Statement is INCORRECT✓O | 1O explanation<br>(8) | |

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| | | | |
|---|---|---|---|
| 3.1.2 | Height = 8.5 × 0.3048m✓C<br>= 2.5908 m<br><br>✓SF<br>SA = 2(6,096 × 2,5908) + 2(2,4384× 2,5908)<br>+ (6,096 × 2,4384) ✓MA<br>= 59,08633344 $m^2$✓CA | 1C multiplying by 0.3048<br><br>1SF substitution<br><br>1MA excluding the underneath<br>1CA answer<br>(4) | M<br>L3 |
| 3.1.3 | Total area = 59,08633344 × 2✓MA<br>=118,17266$m^2$✓CA<br><br>Litres of paint = 118,17266 ÷ 8✓MCA<br><br>= 14.77✓CA<br>= 15<br><br>Statement is CORRECT ✓J<br><br>**OR**<br><br>Total area = 59,08633344÷ 8 ✓MCA<br>= 7,38579168$m^2$✓CA<br><br>Litres of paint = 7,38579168$m^2$ × 2 ✓MA<br><br>= 14.77✓CA<br>= 15<br><br>Statement is CORRECT ✓J | 1MA multiplying by 2<br>1CA answer<br><br>1MCA dividing by 8<br><br>1CA answer<br><br>1J Justification<br><br>**OR**<br><br>1MCA dividing by 8<br>1CA correct answer<br><br>1MA multiplying by 2<br><br>1CA answer<br><br>1J Justification (5) | MP<br>L4 |

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| | | | |
|---|---|---|---|
| 3.2.1 | ✓SF ✓MCA ✓MCA<br>Perimeter = 2 (6,096 + 4) + 2(2,4384 + 4 ) – 0.914✓M<br><br>= 32.1548 m<br><br>Statement is CORRECT✓O | 1SF substitution<br>1MCA adding 4 to length<br>1MCA adding 4 to width<br>1M subtracting gate<br><br>1O explanation (5) | M<br>L4 |
| 3.2.2 | Metres = $\frac{3000}{1000}$✓ C<br>= 3m✓A<br><br>Number of lengths = 32. 1548 ÷ 3✓MCA<br>= 10.72<br>= 11 ✓CA | **CA from Q3.2.1**<br>1C convert to metres<br>1A correct answer<br><br>1MCA dividing by 3<br>1CA answer<br><br>(4) | M<br>L2 |
| 3.2.3 | Length in cm = 0,914 × 1,094✓MA<br>= 1 yard✓A | 1MA multiplying by 1,094<br>1A correct answer<br><br>(2) | M<br>L2 |
| | | **[30]** | |

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**QUESTION 4 [23 MARKS]**

| Ques | Solution | Explanation | T &L |
|---|---|---|---|
| 4.1.1 | Conversion = 810 000 ÷ 1000✓C<br>= 810 $m^3$✓A<br><br>810 $m^3$ = 30 × 20 × h✓SF<br><br>810 ÷ (30 × 20) = height ✓M<br><br>Height = 1.35m✓CA | 1C dividing by 1000<br>1A correct answer<br><br>1SF substitution<br><br>1M changing the subject of the formula<br>1CA answer (5) | M<br>L3 |
| 4.1.2 | ✓MA ✓MA<br>Total area = (30+8+8) × (20+5+5) ✓SF<br>= 1 380$m^2$✓A<br><br>Area of the pool = 20×30✓SF<br>= 600$m^2$✓A<br><br>Area of paving = 1 380 – 600✓MCA<br>= 780 $m^2$✓CA | 1SF substitution<br>1MA adding 16 to length<br>1MA adding 10 to the width<br>1A correct answer<br><br>1SF substitution<br>1A correct answer<br><br>1MCA subtracting area<br>1CA answer<br>(8) | M<br>L3 |
| 4.1.3 | ✓A<br>7,4cm: 30m✓M<br>7,4 cm :3000cm✓C<br>1cm : 405,41cm ✓S<br>1: 405✓CA | 1A measuring length<br><br>1M concept of scale<br>1C convert to cm<br>1S simplification<br><br>1CA correct answer<br>**Accept 7,3 to 7,5 cm**<br>**NPR** (5) | MP<br>L2 |
| 4.2.1 | Total = 9+11✓MA<br>= 20 learners✓A | 1MA adding correct values<br>1A correct answer<br>**AO**<br>(2) | P<br>L2 |
| 4.2.2 | Probability = $\frac{2\checkmark A}{11\checkmark A}$<br><br>= 0.18✓CA | 1A correct numerator<br>1A correct denominator<br><br>1CA answer<br>(3) | P<br>L2 |
| | | **[23]** | |
| | | **TOTAL MARKS [100]** | |

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