

Province of the

**EASTERN CAPE**

EDUCATION

**SENIOR PHASE**

**GRADE 9**

**JUNE 2010**

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| **MATHEMATICS**  **MARKING GUIDELINE** |

**MARKS: 100**

**TIME: 2 hours**

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| This Marking Guideline consists of 05 pages. |

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| **SECTION A** | | |  | |
|  |  |  |  | |
| 1. | D √ | |  | |
| 2. | C √ | |  | |
| 3. | B √ | |  | |
| 4. | C √√ | |  | |
| 5. | A √√ | |  | |
| 6. | A √ | |  | |
| 7. | C √ | |  | |
| 8. | B √ | |  | |
| 9. | A √√ | |  | |
| 10 | A √ | |  | |
| 11. | D √ | |  | |
| 12. | A √√ | |  | |
| 13. | C √ | |  | |
| 14. | D √√ | |  | |
| 15. | B √ | |  | |
| 16. | C √ | |  | |
| 17. | C √ | |  | |
| 18. | D √√ | |  | |
| 19 | D √√ | | **[26]** | |
|  |  |  |  | |
| **SECTION B** | | |  | |
|  | | |  | |
| |  |  |  |  | | --- | --- | --- | --- | | **QUESTION** | **NO** | **SOLUTION** | **MARK ALLOCATION** | | **1** | 1.1.1 | = 3k3m-4 √√ | 2  1 mark specifically for negative index | | 1.1.2 | =-[(a2-4a+4) +(a2+a-6)] +8√  = -[2 a2 – 3a – 2]+8√  =-2 a2+3a+2+8√  ==-2a2 + 3a + 10√ | 4 | | 1.2 | 4(a + b) – *x*2(a+ b)  = (a+b)(4 – *x2)* √  =(a+b) (2 – *x*)(2+ *x)* √√ | 3 | | 1.3 | 1112-992  = (111 – 99)(111 + 99) √  =12 x 210  = 2 520 √ | 2 | | 1.4.1 | 3*x* + 15 – 6 = -*2x* – 2√  5*x* = ­-11√  *x* = -11/5√ | 3 | | 1.4.2 | 3*x* + 1 = 27  3*x* + 1 = 33√  *x* + 1 = 3√  *x* = 2 √ | 3 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | | **2** | 2.1.1 | Pattern 5 =32 since the common difference is 7√ | 1 | | 2.1.2 | 7x1–3 =7-3=4 or any logical method  7x2–3 = 14–3 =11  7x3–3 = 21–3 =18√  7xn -3= 7n-3√√ | 3  1 mark for exploration  1 mark for 7n and 1mark for -3 | | 2.1.3 | 7x200 -3 =1397 | 1 | | 2.2.1 | √ | 1 | | 2.2.2 | √√ Since parallel lines have the same gradient | 2  Give full marks even without reason | | 2.2.3 | At x-intercept, the value of y is zero.  √  √  √ | 3 | | 2.2.4 | √√ | 2 | | **3** | 3.1.1 | Sum of angles of a hexagon =4x 180º  = 720º | 1 | | 3.1.2 | Number of triangles in any polygon = n-2√  Therefore sum of angles in any polygon =n–2 x 180º√ | 2 | | 3.1.3 | 1080= 180º x 6√  =180º x (8–2)  So this is an octagon√ | 2 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | |  | 3.2.1 |  | 2  1st Quadrant  image | | | | | |
| |  |  |  |  | | --- | --- | --- | --- | | **3.** | 3.2.2 | See 3.1.1 4th quadrant√  A′ ′ (2;-1), B′ ′ (3;0), C′ ′ (2;0), D′ ′ (1;-1) √√ | 3  1 mark for correct image  2 marks for correct co-ordinates | | **4** | 4.1 | S = d/ t  20 km/h = 1√  t  t = 0,05 h√  = 3 min√  The rear of the train will emerge at 1:06 pm or 13:06√ | 4 | | 4.2 | 8 - 5 =135 ℓ√  11 8  64-55 =135ℓ  88  9 = 135ℓ√  88  So full capacity =135ℓ x88√  9  =1320ℓ√ | 4 | | 4.3 | Volume of a cylinder = πr2h√  =22x 64cm2x17cm√√  7  = 3 419,43 cm3√ | 4  1 mark specifically  for the correct  height | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | | **5** | 5.1.1 | 72º =1/5 √  360º | 1 | | 5.1.2 | Number of learners for English= 126º x 120 = 42 learners√√  360º | 2 | | 5.1.3 | 180º -72º =108º (angles on a straight line) √  Number of learners for Maths=108º x120  360º  = 36√  Percentage for Maths =36 x100 = 30%√  120 | 3 | | 5.2.1 | Arranged data in ascending order:  15; 18; 20; 20; 23; 23; 25√  Median is 20√ | 2 | | 5.2.3 | Range is 25-15=10 | 1 | | 5.2.4 | Mean = 15+18+20+20+23+23+25√  7  = 20,57√ | 2 | | 5.2.5 | 1 5 8√  2 0 0 3 3 5√ | 2 | | | | | |
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| |  |  |  |  | | --- | --- | --- | --- | |  | 5.3.1 |  | 4  1 mark for correct scaling  1 mark for labelling axes  2 marks for correct plotting | | 5.3.2 | This indicates a weak correlation between the results in the two subjects since the points are fairly scattered. √√ | 2  1 mark for  conclusion  1 mark for the reason | | | | | |
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