ACE Examination 2016

Year 7 Mathematics Yearly Examination

Worked solutions and marking guidelines

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| **Section 1** | | |
|  | **Solution** | **Criteria** |
| 1 |  | 1 Mark: B |
| 2 | 2*x* is a like term of 9*x*. | 1 Mark: B |
| 3 | 1 minute 51.7 seconds | 1 Mark: D |
| 4 |  | 1 Mark: D |
| 5 |  | 1 Mark: B |
| 6 | (Straight line measures 180º) | 1 Mark: D |
| 7 | (A)  (B)  (C)  (D) | 1 Mark: C |
| 8 | (1 cm = 10 mm) | 1 Mark: C |
| 9 |  | 1 Mark: D |
| 10 |  | 1 Mark: B |
| 11 |  | 1 Mark: A |
| 12 | Angle adjacent to 143º is 37º (Straight line measures 180˚)  (Exterior angle theorem) | 1 Mark: D |

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| 13 |  | 1 Mark: D |
| 14 | A: 0.67 B: 0.05 C: 0.60 D: 0.40  Largest number is 0.67 or . | 1 Mark: A |
| 15 |  | 1 Mark: D |
| 16 | 29 is a prime number. | 1 Mark: D |
| 17 |  | 1 Mark: C |
| 18 | Percentage shaded | 1 Mark: C |
| 19 |  | 1 Mark: A |
| 20 | Width is 10 mm or 1 cm | 1 Mark: D |

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| **Section 2 Part B** | | |
|  | **Solution** | **Criteria** |
| 21(a) | 75 minutes = 1 hour and 15 minutes.  4.47 + 1.15 = 6.02 pm | 1 Mark: Correct answer. |
| 21(b) |  | 1 Mark: Correct answer. |
| 21(c) (i) |  | 1 Mark: Correct answer. |
| 21(c) (ii) |  | 1 Mark: Correct answer. |
| 21(d) | 2.7 = 2.70 and 2.8 = 2.80.  Possible answers 2.71, 2.72, 2.73,.... | 1 Mark: Correct answer. |
| 22(a) | Ascending order: | 1 Mark: Correct answer. |
| 22(b) | Pages read | 1 Mark: Correct answer. |
| 22(c) | (Angle sum of a triangle is 180) | 1 Mark: Correct answer. |
| 22(d) |  | 1 Mark: Correct answer. |
| 22(e) |  | 1 Mark: Correct answer. |
| 23(a) (i) |  | 1 Mark: Correct answer. |
| 23(a) (ii) |  | 1 Mark: Correct answer. |

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| 23(b) |  | 1 Mark: Correct answer. |
| 23(c) |  | 2 Marks: Correct answer.  1 Mark: One point graphed correctly. |
| 24(a) | Opposite sides of the shape have the same length. | 1 Mark: Correct answer. |
| 24(b) |  | 1 Mark: Correct answer. |
| 24(c) |  | 1 Mark: Correct answer. |
| 24(d) |  | 1 Mark: Correct answer. |
| 24(e) | (Vertically opposite angles are equal) | 1 Mark: Correct answer. |

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| **Section 2 Part B: Advanced** | | | | |
|  | **Solution** | | | **Criteria** |
| 25(a) | Isosceles triangle - base angles are equal  Angle sum of triangle | |  | 2 Marks: Correct answer.  1 Mark: Finds  without sufficient reasons. |
| 25(b) (i) |  | | | 1 Mark: Correct answer. |
| 25(b) (ii) |  | | | 1 Mark: Correct answer. |
| 25(c) | or | | | 1 Mark: Correct answer. |
| 26(a) | Let the angles be *x*, *y* and *z*.  Cointerior angles |  | | 1 Mark: Correct answer. |
|  | Cointerior angles  The three angles are 54˚, 54˚ and 126˚. | | |  |
| 26(b) | Possible last digits of *x* are 0, 2, 4, 6 and 8. | | | 1 Mark: Correct answer. |
| 26(c) | Let the number be *x*.    The other number is 37. | | | 1 Mark: Correct answer. |
| 26(d) (i) | Sample space {345, 354, 435, 453, 534, 543} | | | 1 Mark: Correct answer. |
| 26(d) (ii) |  | | | 1 Mark: Correct answer. |