ACE Examination 2016

Year 7 Mathematics Half Yearly Examination

Worked solutions and marking guidelines

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| **Section 1** | | |
|  | **Solution** | **Criteria** |
| 1 | Tens of thousands. | 1 Mark: D |
| 2 |  | 1 Mark: C |
| 3 | 195˚ is an obtuse angle. | 1 Mark: A |
| 4 |  | 1 Mark: D |
| 5 |  | 1 Mark: C |
| 6 | (closest to one-half) | 1 Mark: D |
| 7 | Two equally likely outcomes – head or a tail. | 1 Mark: D |
| 8 |  | 1 Mark: D |
| 9 | (Straight line measures 180º) | 1 Mark: B |
| 10 |  | 1 Mark: B |
| 11 | The numbers are increasing by 4  5, 9, 13, **17**, 21 | 1 Mark: C |
| 12 | An acute angle is between 0º and 90º | 1 Mark: A |

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| 13 | 1.15 | | | 1 Mark: B |
| 14 |  | | | 1 Mark: B |
| 15 | (straight angle measures 180˚)  (vertically opposite angles are equal) | | | 1 Mark: C |
| 16 | 616 is divisible by 8, 11 and 14.  (308 not divisible by 14) | | | 1 Mark: B |
| 17 | A. | | C. | 1 Mark: D |
| B. | | D. |
| 18 |  | | | 1 Mark: C |
| 19 | C-shape  Cointerior angles |  | | 1 Mark: B |
| 20 | Convert the fractions to decimals to compare the size.    , , ,, | | | 1 Mark: A |

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| **Section 2 Part B** | | |
|  | **Solution** | **Criteria** |
| 21(c) | Cost of the fabric is $32.97 | 1 Mark: Correct answer. |
| 21(b) |  | 1 Mark: Correct answer. |
| 21(c) |  | 1 Mark: Correct answer. |
| 21(d) | Factors of 32 = {1, 2, 4, 8, 16, 32} | 1 Mark: Correct answer. |
| 21(e) | 6 071 853 = 6 072 000 | 1 Mark: Correct answer. |
| 22(a) | Multiple solutions are possible. | 1 Mark: Correct answer. |
| 22(b) |  | 1 Mark: Correct answer. |
| 22(c) |  | 1 Mark: Correct answer. |
| 22(d) |  | 1 Mark: Correct answer. |
| 22(e) |  | 1 Mark: Correct answer. |

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| 23(a) | Number of students present is 28 ().    The fraction present is . | 1 Mark: Correct answer. |
| 23(b) (i) | (angle sum of a triangle is 180˚) | 1 Mark: Correct answer. |
| 23(b) (ii) | (alternate angles are equal) | 1 Mark: Correct answer. |
| 23(c) | Ascending order: | 1 Mark: Correct answer. |
| 23(d) |  | 1 Mark: Correct answer. |
| 24(a) | The numbers are 7 and 17. | 1 Mark: Correct answer. |
| 24(b) | There are 20 -hour periods in 9 hours. | 1 Mark: Correct answer. |
| 24(c) |  | 1 Mark: Correct answer. |
| 24(d) | (revolution is 360º) | 1 Mark: Correct answer. |
| 24(e) | Supplementary angles add to 180˚.    Supplement is 110˚ | 1 Mark: Correct answer. |

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| **Section 2 Part A: Advanced** | | | | |
|  | **Solution** | | | **Criteria** |
| 25(a) | 24 is the only number between 20 and 25 divisible by 2, 3 and 4.    There are 4 lollies left over. | | | 1 Mark: Correct answer. |
| 25(b) |  | | | 1 Mark: Correct answer. |
| 25(c) | Let the number be *x*.    The other number is 56. | | | 1 Mark: Correct answer. |
| 25(d) | Vertically opposite angle with 150˚  Cointerior angles  Right angle measures 90˚ | |  | 2 Marks: Correct answer.  1 Mark: Finds *x* or *y*. |
| 26(a) | Isosceles triangle – base angles equal  ()  Angle sum triangle |  | | 2 Marks: Correct answer.  1 Mark: Finds 108˚ for *y* without reasoning. |
| 26(b) |  | | | 1 Mark: Correct answer. |
| 26(c) |  | | | 1 Mark: Correct answer. |
| 26(d) |  | | | 1 Mark: Correct answer. |