ACE Examination 2016

Year 9 NAPLAN Examination

Worked solutions and marking guidelines

|  |  |  |
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| **Non-Calculator** | | |
|  | **Answer** | **Solution** |
| 1 | 9.5 | and |
| 2 | 1 cm represents 10 cm | Width of the container in the picture is 3 cm.  Therefore 3 cm represents 30 cm or 1 cm represents 10 cm. |
| 3 |  |  |
| 4 | 26˚C | Arrange numbers in order: 23, 24, 25, **26**, 28, 30, 33  The median temperature is 26°C in Sydney. |
| 5 | 3 |  |
| 6 | 0.054 |  |
| 7 |  | Total number of roses is 9 + 18 = 27. |
| 8 | 65˚ | (angle sum of a triangle) |
| 9 | 45 cm2 |  |
| 10 | NZ | NZ sector is about 144º |
| 11 | 36 | 4:00 pm Tuesday to 4:00 am Wednesday is 12 hours.  4:00 am Wednesday to 4:00 am Thursday is 24 hours.  Total number of hours is 36. |
| 12 |  |  |
| 13 |  | Square of the hypotenuse (*b*) is equal to the sum of the squares of the other two sides () |
| 14 | 35 US dollars |  |
| 15 | 3 | All sides in a square are equal in length. |
| 16 | Multiply by  10 000 | Move the decimal point 4 places to the right |
| 17 |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 18 | 42˚ |  | |  |
| 19 | $450 |  | | |
| 20 |  | Test each expression with appropriate numbers. | | |
| 21 | 24º |  | | |
| (Angle sum of a triangle is 180)  (Alternate angles, parallel lines) | | |
| 22 | 18 cm2 | Large  Small | | |
| 23 | 1.5 hours | Time taken is 4.5 hours – 3 hours or 1.5 hours. | | |
| 24 | 150˚ | Angles of a square (90º). Angles of a equilateral triangle (60º). | | |
| 25 | equilateral with one right angle | Equilateral triangles have all angles equal to 60˚ not 90˚. | | |
| 26 |  |  | | |
| 27 |  | Test each expression with (1, 3) and (–1, 3) | | |
| 28 |  |  | | |
| 29 | 49 | Total number of parts is 4 + 7 = 11.  Now 11 parts = 77 or 1 part is 7 staff. | | |
| 30 | 16% |  | | |
| 31 | 64 cm2 | Kite is half the area of the rectangle. |  | |
| 32 | 8 | Let the number of cupcakes made by Jack be *x*.  Olivia = 9 + *x* cakes and Ryan = 12 + 9 + *x* cakes | | |

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| **Calculator** | | |
|  | **Answer** | **Solution** |
| 1 |  | Increase of 30% requires 130% of the quantity. |
| 2 |  | 380 other tickets. |
| 3 | 2 | Missing digit is a 2 |
| 4 |  |  |
| 5 | 480 | Minor scale represents 40 students.  Number of students at Abby High School is 480. |
| 6 |  |  |
| 7 |  |  |
| 8 | 1500 m |  |
| 9 | Lincoln | |  |  |  |  | | --- | --- | --- | --- | | Worker | Old wage | New wage | Increase | | Audrey | $1680 | $1784 | $104 | | Hudson | $1760 | $1936 | $176 | | Kayla | $1640 | $1792 | $152 | | Lincoln | $1800 | $1872 | $72 | |
| 10 | 102º | (Exterior angle theorem) |
| 11 |  | , , 0.08, . |
| 12 |  | Arrow points to the middle of –1 and –2. |
| 13 | 43º | Vertically opposite angle with 94º.  Base angles of the isosceles triangle are equal (both *x*º).  (Angle sum of a triangle is 180) |
| 14 | 25 cm |  |
| 15 | $2.16 | Daily ticket |
| 16 | 11,250 |  |
| 17 | 25% |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 18 |  | Alternatively substitute each answer into both equations. | |
| 19 | 100 minutes | Time required is 50 × 2 = 100 minutes. | |
| 20 | $1146.30 |  | |
| 21 | 5 units. | Distance between *P* and *Q* is 5 units |  |
| 22 | 524 m3 |  | |
| 23 | 1 hour  30 minutes |  | |
| 24 |  |  | |
| 25 | $70 000 |  | |
| 26 | Range |  | |
| 27 |  | Test the expressions using data from the graph  4 gas units costs $60 | |
| 28 | 5:16 pm |  | |
| 29 | 34 | Let the number be *x* | |
| 30 | 75 | 360 litres in 480 km | |
| 31 | 14 cm |  | |
| 32 | S | S - 1, A - 2, B - 3, M - 4, S - 5, A - 6, B - 7, M – 8,..  There are 4 letters that repeat themselves  401 ÷ 4 = 100 with a remainder of 1 (S) | |