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| MC900229237[1] ACE Examinations  2016  **YEAR 9**  **NAPLAN EXAMINATION** | | Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Numeracy | | |
| **General Instructions**   * Working time - 80 minutes * There will be a short break between Non-Calculator and Calculator examinations * Write using a pencil only * Shade one bubble in the multiple-choice questions * Write your answer in the box for the short answer questions | **Total marks - 64**  **Non-Calculator**  **32 marks**  Attempt Questions 1-32  Allow 40 minutes for this examination  **Calculator**  **32 marks**  Attempt Questions 1-32  Allow 40 minutes for this examination | |

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| 2016  **YEAR 9**  **NAPLAN EXAMINATION** | | Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Numeracy | | |
| **Non-Calculator** | **32 marks**  Time allowed for this exam is 40 minutes  Calculators are NOT to be used in this exam  Each question is worth 1 mark  Multiple choice questions – Shade one bubble  Short answer questions – Write your answer in the box | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. What is the difference between point *A* and point *B*? | | | | | | | | | | |
|  | | | | | | | | | | |
|  | | 0.75 | | | 0.95 | | 7.5 | | | 9.5 |
|  | | ○ | | | ○ | | ○ | | | ○ |
|  | | | | | | | | | | |
| 1. The picture opposite shows a container.   The picture is 30 cm wide and 40 cm high.  What scale is used in the picture? | | | | | | | | Macintosh HD:Users:gregorypowers:Downloads:1.jpg | | |
|  | ○ | | 1 cm represents 10 cm | | | | |
|  | ○ | | 1 cm represents 20 cm | | | | |
|  | ○ | | 2 cm represents 30 cm | | | | |
|  | ○ | | 2 cm represents 60 cm | | | | |
|  | | | | | | | | | | |
| 1. The temperature at 6 am in Westlake was . At 2 pm the temperature was 12ºC warmer than at 6 am. At 7 pm the temperature was 7º C cooler than at 2 pm.   What was the temperature at 7 pm? | | | | | | | | | | |
|  | |  | | |  | |  | | |  |
|  | | ○ | | | ○ | | ○ | | | ○ |
|  | | | | | | | | | | |
| 1. The table below shows the daily temperatures of Australian cities. | | | | | | | | | | |
| |  |  | | --- | --- | | **Australian City** | **Temperature** | | Adelaide | 28°C | | Brisbane | 30°C | | Canberra | 24°C | | Darwin | 33°C | | Hobart | 23°C | | Sydney | 26°C | | Melbourne | 25°C | | | | | | | | | | | |
| Which city has the median temperature? | | | | | | | | | | |
|  | | 24˚C | | | 25˚C | | 26˚C | | | 33˚C |
|  | | ○ | | | ○ | | ○ | | | ○ |
|  | | | | | | | | | | |
| 1. If  what is the value of ? | | | | | | | | | | |
|  | | 2 | | 3 | | 4 | | | 12 | |
|  | | ○ | | ○ | | ○ | | | ○ | |

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| 1. What is the difference between 0.006 and 0.06? | | | | | | | | | | | |
|  | | | 0.010 | | | 0.012 | | | 0.054 | | 0.066 |
|  | | | ○ | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | | |
| 1. Charlotte has 9 white roses and 18 red roses in a vase. | | | | | | | | | | | |
| What fraction of the roses is white? | | | | | | | | | | | |
|  | |  | | |  | | |  | | |  |
|  | | ○ | | | ○ | | | ○ | | | ○ |
|  | | | | | | | | | | | |
| 1. A ramp makes an angle of 25° with the ground. | | | | | | | | | | | |
|  | | | | | | | | | | | |
| What is the value of *x*˚? | | | | | | | | | | | |
|  | 25˚ | | | 35˚ | | | 55˚ | | | 65˚ | |
|  | ○ | | | ○ | | | ○ | | | ○ | |
|  | | | | | | | | | | | |
| 1. A cube has no top face. The volume of the cube is 27 cm3.   What is the outer surface area of the cube? | | | | | | | | | | | |
|  | | | 9 cm2 | | | 15 cm2 | | | 45 cm2 | | 54 cm2 |
|  | | | ○ | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | | |
| 1. The diagram shows the proportion of flights to different countries for an airline? | | | | | | | | | | | |
|  | | | | | | | | | | | |
| Which country makes up about 40% of the airline’s flights? | | | | | | | | | | | |
|  | | China | | | England | | | NZ | | | USA |
|  | | ○ | | | ○ | | | ○ | | | ○ |

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| 1. How many hours are there between 4:00 pm Tuesday and 4:00 am Thursday? | | | | | | | | | | |
|  | | 12 | | | 24 | | | 36 | | 48 |
|  | | ○ | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | |
| 1. A set of traffic lights is green for half the time, orange for one-fifth of the time and red for the rest of the time. What fraction of the time is the set of traffic lights red? | | | | | | | | | | |
|  | |  | | |  | | |  | |  |
|  | | ○ | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | |
|  | | | | | | | | | | |
|  | | | | | | | | | | |
| What is Pythagoras theorem for the above triangle? | | | | | | | | | | |
|  | |  | | |  | | |  | |  |
|  | | ○ | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | |
| 1. The exchange rate is stated below. | | | | | | | | | | |
| **1 Australian dollar buys 0.70 US dollars** | | | | | | | | | | |
|  | | How many US dollars can be bought with 50 Australian dollars? | | | | | | | | |
| US dollars | | | | | | | | | | |
|  | |  | |  | |  | | |  | |
|  | | | | | | | | | | |
| 1. The plane shape opposite is a square   What is the value of *x*? | | | | | | |  | | | |
|  | ○ | | 1 | | | |
|  | ○ | | 2 | | | |
|  | ○ | | 3 | | | |
|  | ○ | | 4 | | | |

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| 1. Which of the operations below will change 0.02 to 200? | | | | | | | | | | | |
|  | ○ | | Multiply by 1000 | | | | | | | | |
|  | ○ | | Multiply by 10 000 | | | | | | | | |
|  | ○ | | Divide by 1000 | | | | | | | | |
|  | ○ | | Divide 10 000 | | | | | | | | |
|  | | | | | | | | | | | |
| 1. Expand | | | | | | | | | | | |
|  | |  | | | |  | | |  | |  |
|  | | ○ | | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | | |
| 1. What is the value of *x* in the diagram? | | | | | | | | | | | |
|  | | | | | | | | | | | |
|  | | 42˚ | | | | 48˚ | | | 52˚ | | 138˚ |
|  | | ○ | | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | | |
| 1. The price of a LCD screen was $480. This price increased by 25%. A month later Zara bought the LCD screen at a 25% discount. How much did Zara pay for the LCD screen? | | | | | | | | | | | |
|  | $360 | | | | $450 | | | $480 | | $600 | |
|  | ○ | | | | ○ | | | ○ | | ○ | |
|  | | | | | | | | | | | |
| 1. In the following expressions, *a* and *b* are positive whole numbers and *c* is a positive number less than 1. Which expression gives the largest value? | | | | | | | | | | | |
|  | |  | | | |  | | |  | |  |
|  | | ○ | | | | ○ | | | ○ | | ○ |
|  | | | | | | | | | | | |
| 1. *MNOP* is a rectangle.   What is the value of *x*? | | | | | | |  | | | | |
|  | | ○ | | 12º | | |
|  | | ○ | | 24º | | |
|  | | ○ | | 45º | | |
|  | | ○ | | 78º | | |

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| 1. What is the area of the shaded region? | | | | | | | | | |
|  | | | | | | | | | |
|  | | | 12 cm2 | | 14 cm2 | | 18 cm2 | | 48 cm2 |
|  | | | ○ | | ○ | | ○ | | ○ |
|  | | | | | | | | | |
| 1. Noah drove 300 km in 4.5 hours.   His average speed for the first 210 km was 70 km per hour.  How long did he take to travel the last 90 km? | | | | | | | | | |
|  | | | hours | | | | | | |
|  | | |  |  | |  | |  | |
|  | | | | | | | | | |
| 1. What is the size of ? | | | | | | | | | |
|  | | | | | | | | | |
|  | | | 60˚ | | 90˚ | | 150˚ | | 180˚ |
|  | | | ○ | | ○ | | ○ | | ○ |
|  | | | | | | | | | |
| 1. Which one of the following triangles is *impossible* to draw? | | | | | | | | | |
|  | ○ an isosceles triangle with one right angle | | | | | | | | |
|  | ○ an isosceles triangle with three acute angles | | | | | | | | |
|  | | ○ a scalene triangle with one obtuse angle | | | | | | | |
|  | | ○ an equilateral triangle with one right angle | | | | | | | |
|  | | | | | | | | | |
| 1. What is the solution to the equation ? | | | | | | | | | |
|  | | |  | |  | |  | |  |
|  | | | ○ | | ○ | | ○ | | ○ |

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| 1. The relationship between two variables *x* and *y* is shown in the table. | | | | | | | |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | 1 | 0 | –1 | –2 | –3 | | *y* | 3 | 1 | 3 | 9 | 19 | | | | | | | | |
| Which equation best describes the relationship between *x* and *y* ? | | | | | | | |
|  |  | |  | |  | |  |
|  | ○ | | ○ | | ○ | | ○ |
|  | | | | | | | |
| 1. Which of the following expressions will simplify to 4? | | | | | | | |
|  |  | |  | |  | |  |
|  | ○ | | ○ | | ○ | | ○ |
|  | | | | | | | |
| 1. In a large business the ratio of female staff to male staff is 4:7.   If there are a total of 77 staff, how many male staff? | | | | | | | |
|  | | | | | | | |
|  |  |  | |  | |  | |
|  | | | | | | | |
| 1. Alex rolled two dice 50 times. Each time, he added the numbers on the top faces.   His results are shown in the table below. | | | | | | | |
| |  |  | | --- | --- | | **Sum of numbers on top faces** | **Number of rolls** | | 2 | 2 | | 3 | 3 | | 4 | 4 | | 5 | 7 | | 6 | 7 | | 7 | 8 | | 8 | 5 | | 9 | 6 | | 10 | 3 | | 11 | 3 | | 12 | 2 | | Total | 50 | | | | | | | | |
| What percentage of rolls resulted in a sum of 7? | | | | | | | |
|  | | | | | | | |

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| 1. The area of the kite in the diagram is 32 cm2.   What is the area of rectangle *ABCD*? | | |  | | |
|  | | | | | |
|  | | | | | |
|  | | | | | |
| 1. Three friends were making cupcakes.   Olivia made 9 more cakes than Jack.  Ryan made 12 more cakes than Olivia.  In total they made 54 cakes.  How many cakes did Jack make? | | | | | |
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| 2016  **YEAR 9**  **NAPLAN EXAMINATION** | | Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Numeracy | | |
| **Calculator** | **32 marks**  Time allowed for this exam is 40 minutes  Calculators are NOT to be used in this exam  Each question is worth 1 mark  Multiple choice questions – Shade one bubble  Short answer questions – Write your answer in the box | |

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| 1. Which of the following expressions would correctly increase $15.40 by 30%? | | | | | | | | | | | | | |
|  |  | |  | | | | |  | | | |  | |
|  | ○ | | ○ | | | | | ○ | | | | ○ | |
|  | | | | | | | | | | | | | |
| 1. Luke buys 20 tickets in a raffle in which there are 400 tickets sold.   What is the chance he does *not* win first prize? | | | | | | | | | | | | | |
|  |  | |  | | | | |  | | | |  | |
|  | ○ | | ○ | | | | | ○ | | | | ○ | |
|  | | | | | | | | | | | | | |
| 1. The square 🞎 in the stem-and-leaf plot represents a missing digit.   What is the value of 🞎 if the range is 34? | | | | | | | | | | | 1 🞎  2 1 3 5 5  3 1 2 2  4 5 6 | | |
|  | | 1 | | | 2 | | | | 3 | | | | 4 |
|  | | ○ | | | ○ | | | | ○ | | | | ○ |
|  | | | | | | | | | | | | | |
| 1. Which expression is always equal to ? | | | | | | | | | | | | | |
|  |  | | |  | | | |  | | | |  | |
|  | ○ | | | ○ | | | | ○ | | | | ○ | |
|  | | | | | | | | | | | | | |
| 1. The number of students attending Abby High School is shown in the graph below. | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | |
| How many students attend Abby High School? | | | | | | | | | | | | | |
|  | 420 | | | | | 440 | | | 460 | | | 480 | |
|  | ○ | | | | | ○ | | | ○ | | | ○ | |
|  | | | | | | | | | | | | | |
| 1. Which expression is always equal to ? | | | | | | | | | | | | | |
|  | |  | | | | |  | | |  | | |  |
|  | | ○ | | | | | ○ | | | ○ | | | ○ |

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| 1. . What is the value of ? | | | | | | | | | | | |
|  |  | | |  | | | |  |  | | |
|  | ○ | | | ○ | | | | ○ | ○ | | |
|  | | | | | | | | | | |
| 1. Liam rode his bike for 5 minutes.   He rode at a speed of 5 metres per second.  How far did Liam ride? | | | | | | | | | | | |
|  | | 10 m | | 25 m | | | | 300 m | 1500 m | | |
|  | | ○ | | ○ | | | | ○ | ○ | | |
|  | | | | | | | | | | | |
| 1. Which of the following workers received the smallest wage increase? | | | | | | | | | | | |
| |  |  |  | | --- | --- | --- | | Worker | Old wage | New wage | | Audrey | $1680 | $1784 | | Hudson | $1760 | $1936 | | Kayla | $1640 | $1792 | | Lincoln | $1800 | $1872 | | | | | | | | | | | | |
|  | Audrey | | | Hudson | | | Kayla | | Lincoln | | |
|  | ○ | | | ○ | | | ○ | | ○ | | |
|  | | | | | | | | | | | |
| 1. What is the value of *x*? | | | | | |  | | | | | |
|  | | | 21º | | 57º | | | 81º | | 102º | |
|  | | | ○ | | ○ | | | ○ | | ○ | |
|  | | | | | | | | | | | |
| 1. Which one is the largest? | | | | | | | | | | | |
|  |  | | | 70% | | | 0.08 | | |  | |
|  | ○ | | | ○ | | | ○ | | | ○ | |
|  | | | | | | | | | | | |

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| 1. The arrow points to a position on the number line. | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | |
|  | | What number is at this position? | | | | | | | | | | | | |
|  | |  | | | | |  |  | | | | |  | |
|  | | | | | | | | | | | | | | |
| 1. What is the value of *x* in the diagram? | | | | | | | | | | |  | | | |
|  | ○ | | | 43º | | | | | | |
|  | ○ | | | 45º | | | | | | |
|  | ○ | | | 86º | | | | | | |
|  | ○ | | | 94º | | | | | | |
|  | | | | | | | | | | | | | | |
| 1. The circumference of a circle is given by the formula . | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | |
| What is the circumference of the above circle correct to the nearest centimetre? | | | | | | | | | | | | | | |
|  | | 8 cm | | | 25 cm | | | | 50 cm | | | 75 cm | | |
|  | | ○ | | | ○ | | | | ○ | | | ○ | | |
|  | | | | | | | | | | | | | | |
| 1. Sienna needs to travel by train for 22 days during June.   A daily ticket will cost her $8.40 and a monthly ticket will cost her $120.  What is her average daily saving for the month of June if Sienna buys a monthly ticket? | | | | | | | | | | | | | | |
|  | | $2.16 | | | $2.95 | | | | $64.80 | | | $184.80 | | |
|  | | ○ | | | ○ | | | | ○ | | | ○ | | |
|  | | | | | | | | | | | | | | |
| 1. A water tank has a capacity of 11.25 kilolitres.   How many litres does the water tank hold when it is full? | | | | | | | | | | | | | | |
|  | | | 1.125 | | | 11 025 | | | | 11 250 | | | | 11 250 000 |
|  | | | ○ | | | ○ | | | | ○ | | | | ○ |

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| 1. Jessica’s electricity bill was $260 last month. This month it is $195.   What is the percentage decrease in the electricity bill? | | | | | | | | | | | | | | | |
|  | | | | | 25% | | | | 35% | | | 65% | | | 75% |
|  | | | | | ○ | | | | ○ | | | ○ | | | ○ |
|  | | | | | | | | | | | | | | | |
| 1. Consider these two equations     Which value of *x* satisfies both of these equations? | | | | | | | | | | | | | | | |
|  | | |  | | | |  | | |  | | | |  | |
|  | | | ○ | | | | ○ | | | ○ | | | | ○ | |
|  | | | | | | | | | | | | | | | |
| 1. Harry sold one steak sandwich for $3.40 every two minutes. How many minutes would it take him to sell $170 worth of steak sandwiches at this rate? | | | | | | | | | | | | |  | | |
|  | ○ | | | | | 25 minutes | | | | | | |
|  | ○ | | | | | 50 minutes | | | | | | |
|  | ○ | | | | | 55 minutes | | | | | | |
|  | ○ | | | | | 100 minutes | | | | | | |
|  | | | | | | | | | | | | | | | |
| 1. Ethan works is paid $27.30 per hour. He is also paid a bonus of $13.60 per hour for training a casual worker. Calculate his wage if he worked 39 hours, of which 6 hours were for training a casual worker. | | | | | | | | | | | | | | | |
|  | | | | $1064.70 | | | | $1146.30 | | | $1228.50 | | | | $1310.10 |
|  | | | | ○ | | | | ○ | | | ○ | | | | ○ |
|  | | | | | | | | | | | | | | | |
| 1. What is the distance between  and ? | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | |
|  | | 4 units | | | | | 4.5 units | | | 5 units | | | | 5.5 units | |
|  | | ○ | | | | | ○ | | | ○ | | | | ○ | |

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| 1. The volume of the cone is given by the formula   where *r* is the radius of the cone in metres and *h* is the height in metres.  What is the volume of the cone when *r* = 10 and *h* = 5? | | | | | | | | | | | |
|  | 52 m3 | | | | 105 m3 | | 268 m3 | | | 524 m3 | |
|  | ○ | | | | ○ | | ○ | | | ○ | |
|  | | | | | | | | | | | |
| 1. The distance on the map from *A* to *B* along the road is 6 cm. How long will it take to walk from *A* to *B* along the road at a speed of 4 kilometres per hour? | | | | | | | | |  | | |
|  | | | ○ | 1 hour 30 minutes | | | | |
|  | | | ○ | 1 hour 50 minutes | | | | |
|  | | | ○ | 2 hours 15 minutes | | | | |
|  | | | ○ | 2 hours 25 minutes | | | | |
|  | | | | | | | | | | | |
| 1. There are 8 red cards, 6 blue cards and 6 black cards placed face down on a table.   Julia selects one card at random.  What is the probability the card is black? | | | | | | | | | | | |
|  | |  | | | |  | |  | | | 6 |
|  | | ○ | | | | ○ | | ○ | | | ○ |
|  | | | | | | | | | | | |
| 1. Tara sells motor vehicles. She earns $700 per week plus 5% commission on her total weekly sales over $60 000.   What is the value of her sales in a week when she earns $1200? | | | | | | | | | | | |
|  | $10 000 | | | | $24 000 | | $70 000 | | | $84 000 | |
|  | ○ | | | | ○ | | ○ | | | ○ | |
|  | | | | | | | | | | | |
| 1. Isabella recorded a set of scores for a netball team. | | | | | | | | | | | |
| 18, 23, 27, 27, 31, 31, 31, 31, 33, 40, 42, 43 | | | | | | | | | | | |
| She then included an extra score of 16. | | | | | | | | | | | |
| Which of these values would increase? | | | | | | | | | | | |
|  | Mean | | | | Mode | | Median | | | Range | |
|  | ○ | | | | ○ | | ○ | | | ○ | |

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| 1. This graph shows how to find the cost of the gas used in Archie’s house. | | | | | | | |
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| Which of the following expressions correctly calculates the cost? | | | | | | | |
|  | ○ | | | | | | |
|  | ○ | | | | | | |
|  | | ○ | | | | | |
|  | | ○ | | | | | |
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| 1. A movie on a Blu-ray player has 43 minutes to run.   The time of day is 4:33 pm.  When will the movie end? | | | | | | | |
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| 1. Jasmine thought of a number. She doubled the number and then subtracted five.   The result was 63.  What was the original number? | | | | | | | |
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| 1. A racing car used 360 litres of fuel to complete a 480 km race. | | | | | | | | | | |
| On average, how many litres of fuel did the car use every 100 km? | | | | | | | | | | |
| litres per 100 km | | | | | | | | | | |
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| 1. The two rectangles shown below have equal area. | | | | | | | | | | |
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| What is the value of *x*? | | | | | | | | | | |
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| 1. A code is received. When decoded, the message is S, A, B, M, S, A, B, M, S, A, B, M,..   The letters repeat themselves in the same order.  What is 401st letter received? | | | | | | | | | | |
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