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| MC900229237[1] ACE Examinations  2016  **YEAR 7**  **HALF YEARLY EXAMINATION** | | Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Mathematics | | |
| **General Instructions**   * Reading time - 5 minutes * Working time - 75 minutes * Write using black or blue pen * You may use a pencil to draw or complete diagrams * Calculators may be used | **Total marks - 50**  **Section 1**  **20 marks**  Attempt Questions 1-20  Allow 30 minutes for this section  **Section 2**  **30 marks**  This section has two parts  Part A - Questions 21-24 20 marks  Part B - Questions 25-26 (advanced) 10 marks  Allow 45 minutes for this section | |

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| Section 1 |
|  |
| 20 marks |
| Attempt Questions 1 - 20 |
| Allow about 30 minutes for this section |
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| Use the multiple-choice answer sheet for Questions 1-20 |
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| 1. The place value of 4 in 1 347 900 is: | | |
|  | (A) Hundreds | |
|  | (B) Hundreds of thousands | |
|  | (C) Thousands | |
|  | (D) Tens of thousands | |
|  | | |
| 1. What is the sum of 3054, 2201 and 7? | | |
|  | | (A) 846 |
|  | | (B) 5255 |
|  | | (C) 5262 |
|  | | (D) 47,052,978 |
|  | | |
| 1. What type of angle is 195˚? | | |
|  | | (A) Obtuse angle |
|  | | (B) Reflex angle |
|  | | (C) Supplementary angle |
|  | | (D) Acute angle |
|  | | |
| 1. What is the difference between 3 and ? | | |
|  | | (A) |
|  | | (B) |
|  | | (C) 1 |
|  | | (D) 5 |
|  | | |
| 1. Simplify this expanded form: | | |
|  | | (A) 82 495 |
|  | | (B) 824 095 |
|  | | (C) 8 024 095 |
|  | | (D) 8 204 905 |
|  | | |

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| 1. A school has 750 students. There are 400 students who live in the local area.   The fraction of the students who live in the local area is closest to: | | |
|  | (A) one-fifteenth | |
|  | (B) one-eighth | |
|  | (C) one-quarter | |
|  | (D) one-half | |
|  | | |
| 1. What is the probability of tossing a tail on a fair coin? | | |
|  | (A) 0% | |
|  | (B) 20% | |
|  | (C) 25% | |
|  | (D) 50% | |
|  | | |
| 1. What is  written as a percentage? | | |
|  | (A) 8% | |
|  | (B) 16% | |
|  | (C) 24% | |
|  | (D) 32% | |
|  | | |
| 1. What is the value of *x*? | | |
|  | | |
|  | (A) 40º | (B) 50º |
|  | (C) 60º | (D) 130º |
|  | | |
| 1. What is one third of 180? | | |
|  | (A) 3 | |
|  | (B) 60 | |
|  | (C) 120 | |
|  | (D) 540 | |
|  | | |
| 1. What is the missing number in the number pattern 5, 9, 13, \_\_\_, 21? | | |
|  | (A) 15 | |
|  | (B) 16 | |
|  | (C) 17 | |
|  | (D) 18 | |

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| 1. An acute angle is: | | |
|  | (A) between 0º and 90º | |
|  | (B) between 90º and 180º | |
|  | (C) between 180º and 270º | |
|  | (D) between 180º and 360º | |
|  | | |
| 1. What decimal number is indicated by the cross () on this number line? | | |
|  | | |
|  | | (A) 1.07 |
|  | | (B) 1.15 |
|  | | (C) 1.30 |
|  | | (D) 1.75 |
|  | | |
| 1. When 643 is divided by 8, the remainder is: | | |
|  | | (A) 1 |
|  | | (B) 3 |
|  | | (C) 5 |
|  | | (D) 7 |
|  | | |
| 1. What are the values of *x* and *y* in the diagram below? | | |
|  | | |
|  | (A)  and | |
|  | (B)  and | |
|  | (C)  and | |
|  | (D)  and | |
|  | | |
| 1. Which is the lowest common denominator for this set of fractions? | | |
|  | (A) 308 | |
|  | (B) 616 | |
|  | (C) 1232 | |
|  | (D) 1848 | |

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| 1. Which of the following is equivalent to ? | | | |
|  | | (A) | (B) |
|  | | (C) | (D) |
|  | | | |
| 1. The following boxes represent missing numbers in a number sentence. | | | |
|  | | | |
| What are the missing numbers in order from left to right? | | | |
|  | | (A) 12, 4 and 2 | |
|  | | (B) 13, 15 and 3 | |
|  | | (C) 9, 2 and 2 | |
|  | | (D) 18, 4 and 2 | |
|  | | | |
| 1. Describe the angles marked on the diagram below. | | | |
|  | | | |
|  | | (A) Alternate angles | |
|  | | (B) Cointerior angles | |
|  | | (C) Corresponding angles | |
|  | | (D) Complementary angles | |
|  | | | |
| 1. Which one of the following is larger than ? | | | |
|  | (A) | | |
|  | (B) | | |
|  | (C) | | |
|  | (D) | | |

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| Section 2 Part A |
|  |
| 20 marks |
| Attempt Questions 21 ‒ 24 |
| Allow about 20 minutes for this section |
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| Answer the questions in the spaces provided. |
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| All necessary working should be shown in every question. |
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| **Question 21** | | | (5 marks) |  | **Marks** |
|  |  |  | | |  |
| (a) | Find the cost of 2.1 metres of fabric if one metre costs $15.70. | | | | **1** |
|  |  | | | |  |
| (b) | Write down the numeral for half a million. | | | | **1** |
|  |  | | | |  |
| (c) | Evaluate. | | | | **1** |
|  |  | | | |  |
| (d) | List the complete set of factors of 32. | | | | **1** |
|  |  | | | |  |
| (e) | Write 6 071 853 correct to the nearest thousand. | | | | **1** |
|  |  | | | |  |

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| **Question 22** | | | (5 marks) |  | **Marks** |
|  |  |  | | |  |
| (a) | One side of an obtuse-angled triangle *ABC* is drawn on the grid below. | | | | **1** |
|  |  | | | |  |
|  | Complete the obtuse-angled triangle on the above grid. | | | |  |
|  |  | | | |  |
| (b) | Write 3.5687 correct to two decimal places. | | | | **1** |
|  |  | | | |  |
| (c) | Find the value of | | | | **1** |
|  |  | | | |  |
| (d) | Write down two equivalent fractions that have a value of . | | | | **1** |
|  |  | | | |  |
| (e) | Round  correct to six decimal places. | | | | **1** |
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| **Question 23** | | | (5 marks) |  | | | **Marks** |
|  |  |  | | | | |  |
| (a) | In a class of 32, 4 students are absent. What fraction of the class is present? | | | | | | **1** |
|  |  | | | | | |  |
| (b) | Find the value of *x* and *y* in the following diagrams. | | | | | | **2** |
|  | (i) |  | | | (ii) |  |  |
|  |  | | | |  | |  |
| (c) | Write the following is ascending order (smallest to largest). | | | | | | **1** |
|  |  | | | | | |  |
|  |  | | | | | |  |
| (d) | Find 20% of $60 | | | | | | **1** |
|  |  | | | | | |  |

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| **Question 24** | | | (5 marks) |  | **Marks** |
|  |  |  | | |  |
| (a) | Find two numbers with a difference of 10 and a product of 119. | | | | **1** |
|  |  | | | |  |
| (b) | How many -hour periods are there in 15 hours? | | | | **1** |
|  |  | | | |  |
| (c) | Evaluate | | | | **1** |
|  |  | | | |  |
| (d) | What is the value of *x*˚ in the diagram below? | | | | **1** |
|  |  | | | |  |
|  |  | | | |  |
| (e) | What is the supplement of 70˚? | | | | **1** |
|  |  | | | |  |

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| Section 2 Part B: Advanced |
|  |
| 10 marks |
| Attempt Questions 25 ‒ 26 |
| Allow about 15 minutes for this section |
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| Answer the questions in the spaces provided. |
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| All necessary working should be shown in every question. |
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| **Question 25** | | | (5 marks) |  | **Marks** |
|  |  |  | | |  |
| (a) | Ryan has a container containing between 20 and 25 lollies. The number of lollies is divisible by two, three and four. How many lollies are left over when he attempts to divide the number of lollies by 5? | | | | **1** |
|  |  | | | |  |
| (b) | Isaac’s monthly income is $7905 however 20% of this income is paid immediately to the government in taxes. What is Isaac’s net yearly income? | | | | **1** |
|  |  | | | |  |
| (c) | The average of two numbers is 71. If one of the numbers is 86 what is the other number? | | | | **1** |
|  |  | | | |  |
| (d) | Find the value of *x* and *y*. Give reasons for your answers. | | | | **2** |
|  |  | | | |  |
|  |  | | | |  |

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| **Question 26** | | | (5 marks) |  | **Marks** |
|  |  |  | | |  |
| (a) | What is the value *y*? Give reasons for your answer. | | | | **2** |
|  |  | | | |  |
|  |  | | | |  |
| (b) | A racket was reduced from $153 to $122.40. Find the percentage discount. | | | | **1** |
|  |  | | | |  |
| (c) | Insert operation symbols () to make the statement true. | | | | **1** |
|  |  | | | |  |
|  |  | | | |  |
| (d) | A new car was purchased for $24 000. It decreases in value by 15% a year.  What is the value of the car after 3 years? | | | | **1** |
|  |  | | | |  |

**End of test**