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2nd International Mathematics Assessments for Schools (2012-2013)

Middle Primary Division Round 2

Time: 120 minutes

Printed Name:	Code:	Score:

Instructions:

- Do not open the contest booklet until you are told to do so.
- Be sure that your name and code are written on the space provided above.
- Round 2 of IMAS is composed of three parts, total score is 100 marks.
- Questions 1 to 5 are given in multiple-choice test. Each question has five possible options marked as A, B, C, D and E. Only one of these options is correct. After making your choice, fill in the appropriate letter on the space provided. Each correct answer is worth 5 marks. There is no penalty for an incorrect answer.
- Questions 6 to 13 are short answer test. Only Arabic numerals are accepted; using other written text will not be honored or credited. Some questions have more than one answer, as such all answers are required to be written down on the space provided to obtain full marks. Each correct answer is worth 5 marks. There is no penalty for incorrect answer.
- Questions 14 and 15 require detailed solution or process in which 20 marks are to be awarded to completely written solution. Partial marks may be given to incomplete presentation. There is no penalty for an incorrect answer.
- Using of electronic computing devices is not allowed.
- Only pencil, blue or black ball-pens may be used to write your solution or answer.
- Diagrams are not drawn to scale. They are intended as aids only.
- After the contest the invigilator will collect the contest paper.

										•						•	
Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Score	Signature
Score																	
Score																	

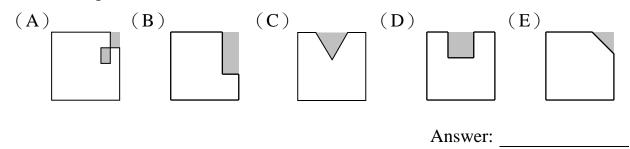
The following area is to be filled up by the judges; the contestants are not supposed to mark anything here.

Middle Primary Division Round 2

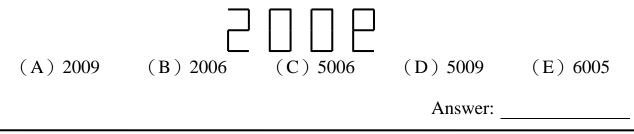
Questions 1 to 5, 4 marks each

1.	When 86 is div be the value of	•	per, the remainde	r is 6. Which of f	following cannot
	(A) 10	(B) 20	(C) 30	(D) 40	(E) 80
				Answer:	
2.		The sum of the		d-field team. The other 13 athletes	•
	(A) 5	(B) 7	(C) 11	(D) 14	(E) 17
				Answer:	
3.	and 90 dollars,	and three kinds buys one gift ite	of gift boxes cos	ems costing 30 do sting 20 dollars, 5 k. How many diff	0 dollars and 80
	(A) 4	(B) 5	(C) 6	(D) 7	(E) 8
				Answer:	

4. The diagram below shows five squares of equal size. The shaded part of each is removed. Of the resulting figures, whose perimeter is equal to the perimeter of the uncut square?



5. A man standing upside down saw in a mirror a woman wearing a shirt with a number as shown below. What is the actual number on the woman's shirt?



Questions 6 to 13, 5 marks each

6. The weight of box A is four times the weight of box *B*. Box A is heavier than box *B* by 12 kg. What is the weight of box A in kg?

Answer: kg

7. The distance between Mark's home and the park is 3000 m. Mark walked from his home to the park at a speed of 100 m per minute and then walked back home at a speed of 150m per minute. What is Mark's average speed in meter per minute?

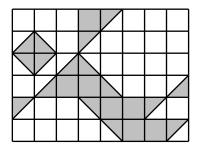
Answer: _____ m per minute

8. There are three 1 by 3 cards, each containing three digits in a vertical column. If these three cards are placed side by side as shown in the diagram below, we can read off three three-digit numbers: 264, 918 and 689. What is the smallest three-digit number that can be obtained by rearranging the order of the cards?

2	6	4	
9	1	8	
6	8	9	

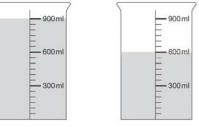
Answer:

9. In the 6×8 square grid, each square is 1 cm^2 , what is the shaded area, in cm²?



Answer: cm²

10. The diagram shows two identical graduated cylinders of capacity 900 ml, each containing some water. In order for both cylinders to contain the same amount of water, how much water should be poured from the cylinder on the left into the cylinder on the right?



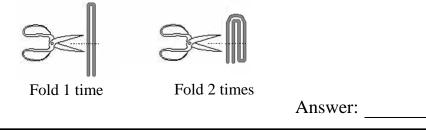
ml

- 11. Observe the following pattern:
 - $\frac{29}{40} = 0.725$ $\frac{31}{40} = 0.775$ $\frac{33}{40} = 0.825$ What is the decimal expansion of $\frac{27}{40}$?

Answer:

Answer:

12. The diagram shows that if a rope is folded once and be cut in halves, it will separate into 3 pieces; and if it is folded twice instead, it will separate into 5 pieces. If it is folded 6 times instead, into how many pieces will it separate?



13. Andy and Ben started at 7:00AM from town *A* and jogged along the same road in the same direction. Andy jogged at a constant speed of 6 km/h while Ben jogged at a constant speed of 4 km/h. At 9:00AM, Ben borrowed a bike along the road and rode at a constant speed of 10 km/h. He caught up with Andy at town *B*. What was the distance between town *A* and town *B*?

Answer: km

Questions 14 to 15, 20 marks each

(Detailed solutions are needed for these two problems)

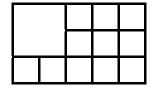
14. The total value of Jerome's 4 coins is 3 dollars less than Roberta's 3 coins. Each is a 1-dollar, 2-dollar or 5-dollar coin, but there are only two different kinds among these 7 coins. What is their minimum total value?

Answer:

15. Unlimited numbers of two types of two square cardboard papers are available: side lengths of 1 cm or 2 cm.



Now, we are going to use these two kinds of cardboard paper to assemble a rectangular shape with length of 5 cm by 3 cm. How many different ways can we make such kind of rectangular shape paper? (rotating and flipping of each other to make a rectangular paper is considered the same way of making the rectangular paper. For example, the following three rectangular pieces of paper is the same way of making a new rectangular pieces of paper, because the first rectangular piece of paper becomes the second piece through a clockwise rotation of 90 degrees and the third piece can be obtained from the second piece by flipping it upside down)



-	-	

Answer: