The Mathematical Association

Primary Mathematics Challenge

16-20 November 2015

Name .....

Class .....

Please do **not** start to answer questions until you are told to do so. When you do turn over the page you will have 45 minutes for the challenge.

You must do all the work on your own. You should use rough paper for this.

For questions 1 – 20, write down A B C D or E in the space for each answer.
For questions 21 – 25, write down your answer in the space.
Each correct answer gains one mark.

Good Luck. Enjoy the challenge!

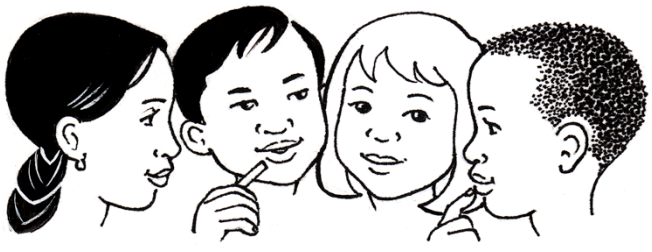
Practice Questions

P1 Which of the following statements is true?

A $4 + 7 = 3$ B $3 = 4 - 7$ C $3 + 4 = 7$
D $4 = 7 + 3$ E $3 - 7 = 4$

P2 Abigail is saving 50p each week.
How many weeks will she take to save £20?

A 20 B 25 C 30 D 35 E 40



Total mark

/ 25

MATHEMATICAL ASSOCIATION

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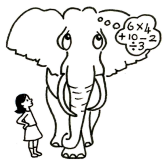
1 Which of these is closest to the height of an adult elephant?



A 1 cm B 2 feet C 3 m D 4 mm E 5 km

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2 The number of letters in the word FOUR is equal to its numerical value. For how many **other** single-digit numbers is this true?

A 0 B 1 C 2 D 3 E 4

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3 In the UK it is now 11 am. The time in San Francisco is 8 hours behind the UK. What time do the clocks now show in San Francisco?

A 3 am B 4 am C 5 am D 11 am E 7 pm

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4 I have 100 socks for my octopuses.
How many octopuses can have all their tentacles in socks?

A 4 B 8 C 9 D 10 E 12

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5 Rabbit Owt buys 10 bendy pencils at 99p each and pays with a £10 note.
How much change should Rabbit Owt receive?

A 1p B 9p C 10p D 90p E 91p

---

6 Speedy Samuel is running up the Eiffel Tower in Paris. There are 669 steps from ground level to the second stage of the tower. If he runs from ground level to the second stage and back, how many steps does he run?

A 669 B 1238 C 1328 D 1338 E 13218

---

7 Which of the following calculations gives the smallest number that is exactly divisible by 2, 3 and 4?

A 2×3 B 2×4 C 3×4 D $2 \times 3 \times 4$ E $1 \times 2 \times 3 \times 4$

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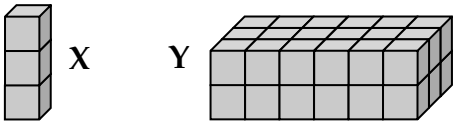
8 How many cuboids like **X** would you need to make cuboid **Y**, shown on the right?



A 8 B 9 C 10 D 11 E 12

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9 If Pythagoras' height is approximately three times the circumference of his head and the circumference of his head is 63 cm, how tall could he be?

A 20 cm B 2.1 m C 125 cm D 190 mm E 1.9 m

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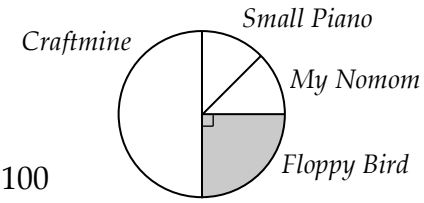
10 In a survey 200 children were asked to choose their favourite smartphone game. How many chose *Floppy Bird*?



A 10 B 20 C 25 D 50 E 100

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11 If today is Wednesday, what day of the week will it be in 20 days' time?

A Monday B Tuesday C Wednesday D Thursday D Friday

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12 Pat and Qwong are delivering leaflets to flats numbered from 250 to 300 inclusive. Pat is delivering only to the flats that have even numbers. How many leaflets will she need?

A 24 B 25 C 26 D 50 E 51

---

13 A square piece of paper is folded in half to make a rectangle. The rectangle has a perimeter of 24 cm. What was the area of the original square?

A 25 cm² B 36 cm² C 49 cm² D 64 cm² E 81 cm²

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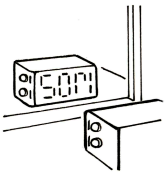
14 Marco could only see his digital clock as a reflection in the window. When he looked at it the first time, it read 5071. A while later it read 8E71. How many minutes passed in between?



A 33 B 34 C 35 D 36 E 37

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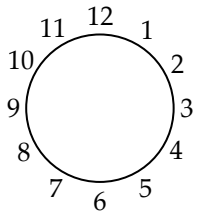
15 In Roman numerals, 2015 is written using 4 letters: MMXV. In how many years' time will the year next be written with only 4 letters ?

A 4 B 5 C 6 D 9 E 10

---

16 The diagram shows the numbers 1 to 12 placed around a circle. Robin crosses out 1, and then 4 and then 7, going in a clockwise direction and crossing out every third number that has not yet been crossed out, until two numbers are left. What is the sum of these two numbers?



A 11 B 12 C 13 D 14 E 15

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17 I am threading blue and purple beads onto a necklace in the ratio 2 : 5. I use 98 beads in total. How many more purple beads than blue do I use?

A 7 B 35 C 42 D 14 E 49

---

18 I am going to help my mum. No rests.
Mow the lawn: 40 minutes
Post a letter: 7 minutes
Wash the car: 35 minutes
Clean out Budgie's cage: 11 minutes.
If I start at 10 am, what time will I finish?

A 11.00 B 11.33 C 11.40 D 12.00 E 12.09

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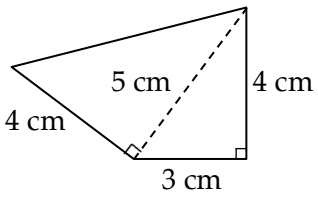
19 What is the area of this quadrilateral?

A 12 cm^2 B 16 cm^2 C 18 cm^2
D 20 cm^2 E 25 cm^2



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20 My dad, Burly Ird, says he has to moan at me two school mornings in every three to get me out of bed.
In a twelve-week term, with five schooldays each week, on how many mornings will he moan at me?

A 30 B 35 C 36 D 40 E 42

---

21 Mrs Whiskers has two cats and eight kittens.
Each of the two cats weighs six times as much as each kitten. Altogether the cats and kittens weigh 10 kg.
How many kilograms does each kitten weigh?

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22 A full box of *Brekkibix* contains 1200 grams of cereal.
If each of the dimensions of the box is halved, how many grams of *Brekkibix* will the smaller full box contain?

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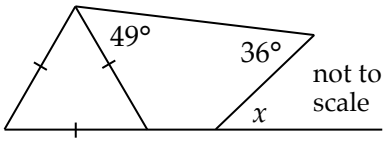
23 The diagram shows an equilateral triangle joined to a quadrilateral, two of whose angles are 36° and 49°. What is the size of angle x?



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24 What fraction of all the three-digit numbers which end in 6 are multiples of 6?

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25 The largest four-digit factor of 87878 is a prime number.
What is it?

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