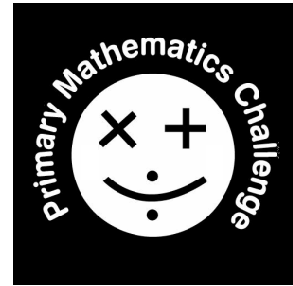


Primary Mathematics Challenge



21-25 November 2011

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!

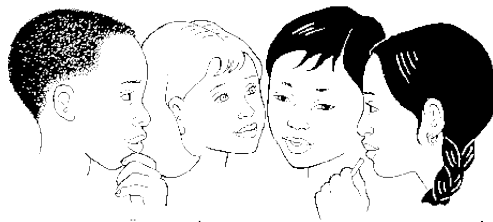
Practice Questions

P1 I was born in January 2000. How old am I now?

A 7 B 9 C 11 D 13 E 15

P2 One quarter of a number is 4. What is the number?


A 16 B 20 C 40 D 64 E 144




Total mark

/ 25

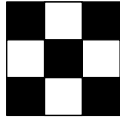
Primary Mathematics Challenge 2011

1 An apple a day keeps the doctor away; so how many apples in a week? 


A 1 B 5 C 7 D 8 E 14

2 A ladybird has six legs. Altogether, how many legs do sixty-six ladybirds have? 

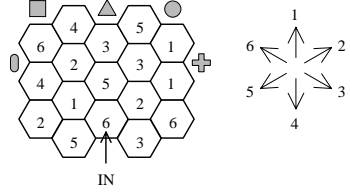
A 36 B 66 C 396 D 666 E 3636






3 What fraction of this square is shaded black? 

A $\frac{1}{5}$ B $\frac{1}{4}$ C $\frac{4}{9}$ D $\frac{5}{9}$ E $\frac{4}{5}$

4 In our garage we have five bicycles, three tricycles and one quad bike. How many wheels are there altogether? 

A 3 B 9 C 18 D 23 E 27

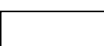




5 You go into this maze at the arrow. If you move into the neighbouring hexagon according to the direction shown each time, at which point will you come out of the maze? 

A  B  C  D  E 

6 The dates below are for the reigns of five English kings. Which of these five kings was king for the longest time?

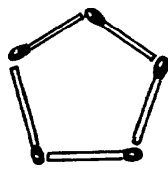
A Henry I B Henry II C Henry III D Henry IV E Henry V
 1100 – 1136 1154 – 1189 1216 – 1272 1399 – 1413 1413 – 1422

7 I have a paper rectangle. If I make one fold by putting one corner exactly over its diagonally opposite corner, what outline shape do I get?

A  B  C  D  E 

8 I need a lot of toys. Which of these offers give me the cheapest price for each toy?

A buy 1, get 1 free B buy 2, get 2 free C buy 3, get 3 free
 D buy 4, get 4 free E there's no difference – they are all the same

9 Stryka Lite is playing with matches. Stryka fits together five matches to make a pentagon. How many more matches does Stryka need to make a pentagonal pyramid? 

A 5 B 10 C 15 D 20 E 25

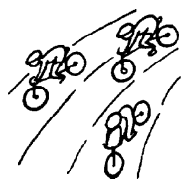
Primary Mathematics Challenge 2011

10 Yesterday the police asked five schoolgirls for their dates of birth. Which of them did not tell a lie?

A Neoprene (17.13.2001) B Nylon (32.05.2000) C Formica (14.07.2012)
 D Teflon (16.08.2001) E Trogamid (30.02.2002)

11 The Olympic Velodrome has a 250m track. How many circuits do the cyclists have to do to complete a 30 km race?

A 4 B 40 C 12 D 30 E 120

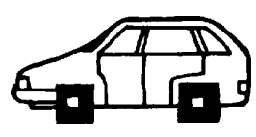


12 Owen D. Bank wants to save up for the latest DS game, which costs £15. If he saves £1 the first week, £2 the second week, £4 the third week and continues doubling, how long will it take him to reach his target?






A 2 weeks B 4 weeks C 6 weeks D 12 weeks E 15 weeks

13 A car, badly designed by a Year 4 pupil, has square wheels with sides 25 cm long. How many times will the wheels of this car turn right round if it travels 1 km without any slipping?

A 1000 B 2000 C 4000 D 10 000 E 40 000




14 These five shapes all fit into 2 cm squares, with their sides just touching the squares as shown in the diagram. Which shaded shape has the largest area?

A  B  C  D  E 

15 It takes Sennet the centipede 8 seconds to put on a sock and 12 seconds to put on a shoe. She can only do one thing at a time. How long will it take Sennet to put socks and shoes on all her 100 legs?

A 200 seconds B 800 seconds C 1200 seconds
 D 2000 seconds E 2000 minutes

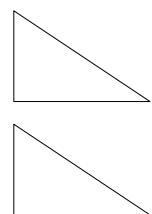


16 Gus and Harry took Ian out to lunch and agreed to share the bill equally. Unfortunately, Ian forgot his wallet, and his friends each had to pay an extra £5 to cover his part of the bill. What was the total bill?

A £10 B £15 C £25 D £30 E £45

17 Two identical triangles shown here can be picked up, turned and fitted together edge to edge to make new shapes. Which of these shapes **cannot** be made?

A a rhombus B a rectangle
 C a triangle D a kite E a parallelogram



Primary Mathematics Challenge 2011

18 The age of my granny is equal to the number of eyes on our goldfish times the number of legs on our dog times the number of tentacles on our octopus plus the number of toes on one of my feet. How old is she?

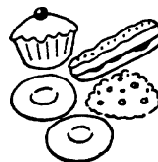


- A 48 B 56 C 64 D 68 E 69

19 2011 is a prime number. One of these numbers is also prime. Which one?

- A 2012 B 2013 C 2015 D 2017 E 2019

20 Edina Cloud bought 2 cakes and a doughnut for 80p. She then bought 3 cakes and 2 doughnuts for £1.30. How much is one doughnut?

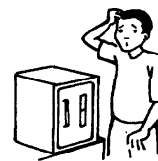


- A 10p B 20p C 30p D 50p E 80p

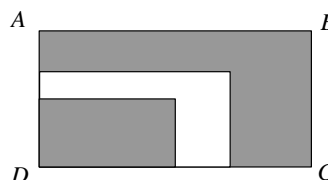
Q21 – 25 are not multiple-choice problems. Write your answers in the boxes.

21 Gurpreet starts reading a book on page 1. She is about to start Chapter 7, which begins on page 49, when her mother calls her down to supper. What is the average number of pages per chapter in her book so far?

22 A simple lock on a safe uses two numbers. Each can be from 1 to 6. To enter the safe, any even number and any odd number is needed (in any order). What is the probability that someone choosing numbers at random will open the safe in one go?



23 The diagram shows 3 rectangles piled up, one on top of the other. Each of the smaller rectangles has half of the area of the next. What fraction of rectangle *ABCD* is unshaded?



24 In an election, only 50% of the citizens voted. Of these, 60% voted for the winning party. What percentage of the citizens voted for the winning party?

25 Mustafa Lok wishes to choose his four-digit padlock code so that it is a multiple of 4 and each digit after the first is one more than the previous digit. What is the code he chooses?

