

Numeracy Paper

11+

Name.....

Candidate Number.....

Seat Number.....

This paper has 50 questions, which you have 40 minutes to complete.

Read the questions carefully.

If you cannot answer a question, do not waste time on it. Move on to the next question and come back later if you have time.

Answers must be entered on the multiple choice answer sheet.

You may jot any working out on this test paper or the rough paper supplied.

Numeracy 11+ Paper B. 2014

Use the five digits: 1, 5, 7, 8, 9 for questions 1-5.

1. Use all five digits, but you may only use each digit once.
What is the largest number you can make?
2. Use all five digits, but you may only use each digit once.
What is the smallest even number you can make?
3. What is the smallest number that three of the five digits will go into?
4. Find the smallest prime number consisting of two of the five digits.
5. What is the product of all the five digits?

Find the missing numbers in the following sequences:

6. 99, 97, 94, 90,
7. 10, 11, 20, 12, 30, 13, 40,
8. 31, 37, 43, 49, 55,, 67
9. 5, 10, 20,, 55, 80
10. 4, 8, 16, 32,, 128
11. 3, 9, 7, 21, 19, 57,

0.66 67/100 0.603 0.599 2/3

From the fractions and decimals above, choose:

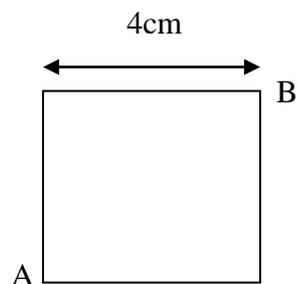
12. The smallest fraction or decimal.
13. The largest fraction or decimal.

There are 16 sweets in a bag.

Thomas, Tina, Terry and Thulasi have three bags between them.

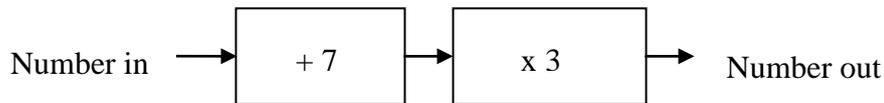
14. If the children share the sweets equally, how many sweets do they each receive?
15. Thomas ends up eating half of the total number of sweets, Terry a quarter, while Tina and Thulasi share equally what is left.
How many sweets does Terry eat?
16. Tina works out that each sweet costs 4p. How much does a bag of sweets cost?
17. If each child pays for the number of sweets they consume, what should Tina pay?

This square is not drawn to scale.



18. How many squares (5mm x 5mm) is it possible to fit inside the square?
19. How many lines of symmetry does the square have?
20. What is the perimeter of the square?
21. If a line is drawn from corner A of the square, to corner B, what is the area of one of the triangles formed?

This is a function machine.



22. If the number “12” goes in, what number comes out?

23. If the number “7” goes in, what number comes out?

24. If the number “0” goes in, what number comes out?

25. If the number “x” goes in, what number comes out?

26. I think of a number, then treble it and add 13. The answer is 40.

What is my original number?

27. I think of a three-digit number, then reverse the digits, divide by 2 and take away 123. The answer is 0. What is my original number?

28. Three people are in a room. They all shake hands with each other once.
How many hand shakes take place?

29. How many different hand shakes would take place if there were six people in the room and they all shook hands with each other once?

30. A football match takes place between Chelsea and Liverpool. The final score is 2-2. How many different scores were possible at half-time?

Mary makes a cake.

She needs twice as much flour as sugar.

For every 100g of sugar, it is necessary to include 1 egg.

For every 400g of flour, the recipe needs 100g of margarine.

31. If Mary uses 2 eggs, how much flour does she need?
32. If Mary uses 200g of margarine, how many eggs must she use?
33. If Mary uses 600g of flour, how much margarine should she use?
34. Which of these following recipes has been incorrectly calculated?
- | | | | |
|-----------|------------|------------|----------------|
| a) 1 egg | 100g sugar | 200g flour | 50g margarine |
| b) 2 eggs | 200g sugar | 400g flour | 100g margarine |
| c) 3 eggs | 300g sugar | 600g flour | 175g margarine |
| d) 4 eggs | 400g sugar | 800g flour | 200g margarine |
| e) 5 eggs | 500g sugar | 1 kg flour | 250g margarine |

Alice scores 60 out of 80 in her maths test and 72 out of 80 in her English test.

Last year she scored 70 out of 100 in the maths test and 80 out of 100 in the English test.

35. What was Alice's average percentage score for maths over the two years?
36. What was Alice's average percentage score for English over the two years?

Bob enters a quiz competition with 20 questions.

There are 3 marks awarded for a correct answer, a loss of one mark for an incorrect answer, and no score for an unanswered question.

37. Bob gets 12 questions correct, chooses not to answer 4 and gets the rest wrong.
What is his final score?
38. Bob's opponent, Tim, gets 1 wrong, fails to answer 6 and gets the remainder correct.
How many points does Tim score?

Oliver found a short way of writing out a long sum.

He invented a sign *, which, when put after a number, means that you multiply out the number with all those smaller than it.

For example:

$$5^* = 5 \times 4 \times 3 \times 2 \times 1$$

$$7^* = 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

$$13^* = 13 \times 12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

39. What is the answer to $3^* + 2^*$?

40. What is $6^* - 4^*$?

41. What is $3^* \times 3^*$?

42. What is 10^* divided by 10^* ?

43. What is 100^* divided by 99^* ?

Use the fact that $374 \times 50 = 18700$ to help you work out the following:

44. $3.74 \times 50 =$

45. $37.4 \times 5 =$

46. $374 \times 100 =$

47. $374 \times 25 =$

48. A train leaves London at 08:50 and arrives in Swansea at 14:35.
How long did the journey take?

A store sells many comics for the same price.

49. If Tim receives £1.90 change from £10.00 when he buys six comics, how much does one comic cost?

50. What is the smallest number of coins with which Tim can buy 3 comics?

END of TEST. Now check your work.