

Numeracy Paper

11+

Name:.....

Candidate Number.....

Seat Number.....

This paper has 40 questions, and you have 40 minutes to complete the test.

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 if you have time later.

Answers must be entered on the multiple choice answer sheet.

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

1. Which of the following numbers is a multiple of 3? Put your answer on the multiple choice answer sheet.

- a) 9724 b) 6831 c) 5693 d) 9554 e) 9353

2. A sequence starts from -2 and adds 8 each time. For example: -2, 6, 14, etc.
What is the first term after 100?

- a) 101 b) 102 c) 104 d) 105 e) 106

3. I buy some pens and pencils. The total cost is 84p. The pens cost twice as much as the pencils and I buy 7 pens. How much do the pencils cost?

- a) 8p b) 12 c) 6p d) 4p e) 3p

4. What is 'the smallest prime number' multiplied by 'the number of sides of a pentagon' multiplied by 'the number of diagonals of a rectangle'?

- a) 20 b) 10 c) 12 d) 6 e) 40

5. What is 'one and two-thirds' multiplied by three?

- a) 4 b) 5 c) 6 d) 7 e) 8

6. Five numbers average 14. What is their total?

- a) 52 b) 62 c) 42 d) 70 e) 80

7. What is $\frac{6}{7} - \frac{2}{3}$?

- a) $\frac{4}{4}$ b) 1 c) $\frac{1}{21}$ d) $\frac{5}{21}$ e) $\frac{4}{21}$

8. What is 4^3 ?

- a) 12 b) 36 c) 64 d) 48 e) 16

9. Ann has four pieces of string.

One is 0.5m long. One is 5cm long. One is 40mm long and one is 21cm long.
What is the average length of the four pieces of string?

- a) 20 cm b) 16 cm c) 9cm d) 26cm e) 25 mm

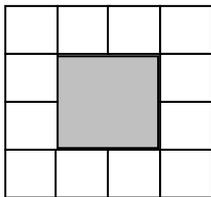
10. What is the lowest common multiple of 5, 8 and 20?

- a) 1 b) 160 c) 40 d) 20 e) 80

11. I have £1.98p in my pocket. What is the fewest number of coins that can make that amount?

- a) 2 b) 4 c) 6 d) 7 e) 8

12. Bob has 12 squares and makes them into the following shape:
Each square measures 1cm x 1cm.



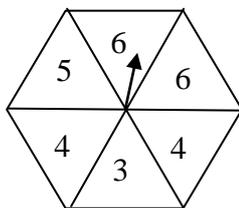
What is the area of the shaded section in the middle?

- a) 4cm^2 b) 1cm^2 c) 16cm^2 d) 8cm^2 e) 3cm^2

13. Bob wishes to make another pattern, with the same sized squares in the outer layer, but with a shaded square of 9cm^2 in the middle. How many squares would he need in total?

- a) 24 b) 16 c) 18 d) 20 e) 14

14. Tabish has a fair spinner. What is the probability he will obtain an odd number on his first spin?



- a) 0 b) 1 c) $1/3$ d) $2/5$ e) $2/3$

15. ? \longrightarrow $\boxed{+ 3}$ \longrightarrow $\boxed{\times 4}$ = 36

A mystery number goes into a function machine. 36 comes out. What is the mystery number?

- a) 12 b) 3 c) 4 d) 1 e) 6

16. What is $0.08 \times 70,000$?

- a) 5.6 b) 56 c) 560 d) 5600 e) 56000

17. Mariah has 18 dollars. Every day she buys a water bottle for 3 dollars and then later in the day, she returns the bottle and receives 2 dollars back. How many bottles is Mariah able to purchase?

- a) 18 b) 20 c) 17 d) 16 e) 15

18. The shapes represent numbers. The totals are given at the end of the rows and columns.

				18
				19
				28
				16
22	18	26	15	

Which number does the oval  represent?

- a) 5 b) 10 c) 7 d) 4 e) 2

19. What number does the triangle represent?

- a) 1 b) 2 c) 3 d) 4 e) 5

20. If I start with £500 and spend £150, what percentage of the original amount do I have left?

- a) 35% b) 70% c) 50% d) 30% e) 15%

21. What is 150% of 90?

- a) 45 b) 80 c) 135 d) 150 e) 110

22. The temperature is -7°C and the temperature decreases by 7°C . What is the new temperature?

- a) 0°C b) 10°C c) 14°C d) -14°C e) -7°C

23. $6^2 + ?^2 = 10^2$. What number should replace the question mark?

- a) 8 b) 6 c) 4 d) 9 e) 3

24. Amy mixes up paint using two colours - red and blue.
The ratio of red paint to blue paint is 2:5.
How much blue paint is required if Amy makes 21 litres?

- a) 6 litres b) 15 litres c) 4 litres d) 18 litres e) 12 litres

In each of the questions 25-28, give 'b' a value so each statement makes sense.
(note that 2b means 2xb)

25. $7 + b = 17$

- b equals: a) 0 b) 1 c) 2 d) 10 e) 15

26. $3b + b = 16$

- b equals: a) 0 b) 1 c) 2 d) 3 e) 4

27. $b - 3 = 18 \div 6$

- b equals: a) 9 b) 10 c) 18 d) 12 e) 6

28. $8 \div b = 1 - 0.75$

- b equals: a) 7.75 b) 2 c) 32 d) 16 e) 8.5

Look at the following fractions and decimals, and then answer questions 29 and 30.

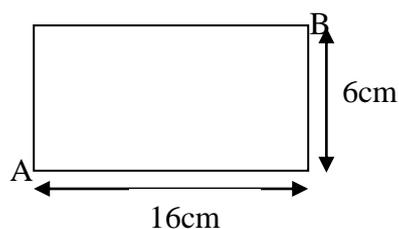
- a) 0.67 b) $\frac{2}{3}$ c) $\frac{63}{100}$ d) 0.7 e) $\frac{4}{7}$

29. Which is the smallest fraction or decimal above?

30. Which is the largest fraction or decimal above?

31. How many rectangles measuring 1cm x 2cm is it possible to fit inside the pictured rectangle?

- a) 24 b) 48 c) 96 d) 14 e) 10



32. If a line is drawn from the corner A of the rectangle above, to the opposite corner B, what is the area of one of the triangles formed?

- a) 48 cm² b) 96 cm² c) 43 cm² d) 36 cm² e) 64 cm²

33. Which 3-D shape has 12 edges and six faces?

- a) cylinder b) tetrahedron c) square-based pyramid d) sphere e) cuboid

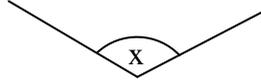
34. Which four-sided shape has exactly one line of symmetry?

- a) rectangle b) rhombus c) kite d) scalene triangle e) square

35. Which 3-D shape has four vertices?

- a) square-based pyramid b) tetrahedron c) cuboid d) cube e) cylinder

36. The angle 'x' shown is 119° .



What is the reflex angle?

- a) 61° b) 241° c) 151° d) 29° e) 31°

37. A bucket full of water weighs 24 kg. Half of the water is tipped out and then the bucket and remaining water weigh 14kg. How much does the bucket weigh?

- a) 4 kg b) 2 kg c) 12 kg d) 3 kg e) 1 kg

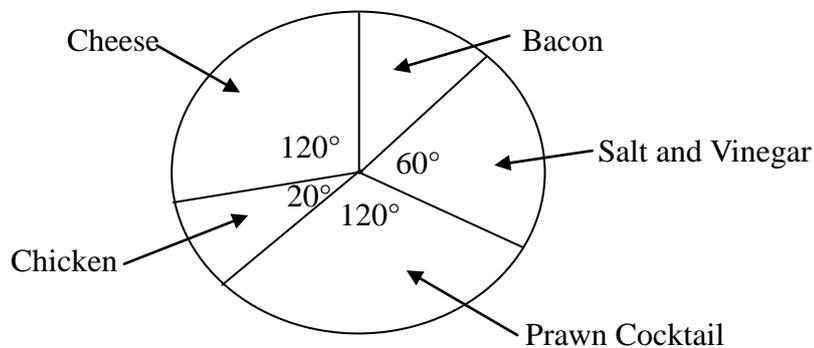
38. A container of water holds 6 litres. It starts to leak at 12 noon on Wednesday and loses 50ml every hour. When will it be empty?

- a) 6 p.m. Wed. b) 12 noon Thursday c) 6 p.m. Thurs. d) 12 noon Sat. e) 12 noon Mon.

39. How much time passes between Monday at 10.34 p.m. and Tuesday at 3.07 a.m.?

- a) 4 hrs. 33 mins. b) 15 hrs. 33 mins. c) 5 hrs. 33 mins. d) 15 hrs. 23 mins. e) 4 hrs. 23 mins.

40. The pie-chart represents the favourite flavours of crisps of 90 children.



How many children preferred bacon flavour?

- a) 6 b) 8 c) 9 d) 10 e) 12