FOREST SCHOOL

11+

ENTRANCE AND SCHOLARSHIP SAMPLE PAPERS

Sample Paper 1

SAMPLE

FORESTSCHOOL
ENTRANCE EXAMINATION
MATHEMATICS
SAMPLE PAPER

Calculators are **NOT** allowed
You are advised to show your working
Time: One hour

NAME.....

CANDIDATE NUMBER.....

---

1 Work out 887 + 96

ANSWER.....

---

2 Work out 123 - 41

ANSWER.....

---

3 Work out 876 x 3

ANSWER.....

---

4 Work out 3647 ÷ 7

ANSWER.....

---

5 What is halfway between 120 and 300?

ANSWER.....

---

6 Krishn has 1 hour to clean the house before his parents get back from their holiday. He has to hoover 3 rooms, clean out his pet hamster's cage and wipe off the drawing of an elephant he accidently did on the bathroom wall.

Each room takes 12 minutes to hoover, it takes 18 minutes to clean out his hamster's cage and 21 minutes to rub out the elephant, which he does last.

What fraction of the elephant is **left** on the wall when Krishn's parents arrive home?

ANSWER.....

---

7 Abigail is three times as old as Ryan.
In 6 years time Abigail will be 42.
How old will Ryan be in 2 years?

ANSWER.....

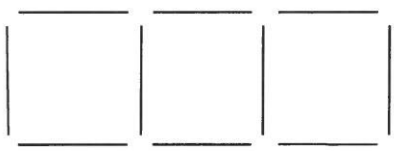
---

8 What number is ten thousand more than 9876543 ?

ANSWER.....

---

9 Naheeda uses 10 matchsticks to make a row of 3 squares.
How many matchsticks would she need to make a row of 7 squares?



ANSWER.....

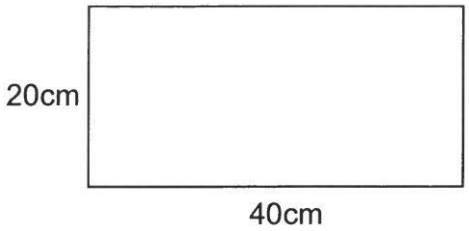
---

10 James is driving on the M25. He is annoyed because a 35 mile stretch of road works has a speed restriction of 50mph rather than being able to travel at 70mph.
How much longer is his journey as a result of the roadworks?

ANSWER.....minutes

---

11 Sahij has made a rectangular slab of flapjack: 20cm by 40cm.
He is not sure what size flapjacks to make from it.



(a) What is the most 4cm by 4cm flapjacks he could make?

ANSWER.....

(b) What is the most 5cm by 8cm flapjacks he could make?

ANSWER.....

(c) What is the most 6cm by 7cm flapjacks he could make?

ANSWER.....

12 What is $3\frac{1}{2} \div \frac{1}{4}$?

ANSWER.....

---

13 ***SPECIAL OFFER ON MATHS BOOKS!***

Fun Trigonometric Calculus For Pre-School, by IanTregation

Only £16 each.

Special offer: Buy 3 and get 1 free!

Subhan wants to get 5 of these books.

How much does he pay?

ANSWER.....

14 Anokhi buys 4 chocolate bars at 75p each and 3 pens at 95p each.
How much change does she receive from a £10 note?

ANSWER.....

---

15 A "taxicab number" is a number that can be written as the sum of two cube numbers in two different ways.

For example 1729 is a taxicab number because

$1729 = 1^3 + 12^3$ and also $1729 = 9^3 + 10^3$

Zain says "There are no taxicab numbers less than 30." Is he right?

Explain your reasoning carefully

ANSWER.....

REASON.....

.....

.....

.....

16 The letter "e" appears _____ times in this sentence.

Which of the following goes in the gap above?

Seven, eight, nine, ten, eleven, twelve or thirteen

ANSWER.....

---

17 What is 30.03 – 3.3 ?

ANSWER.....

---

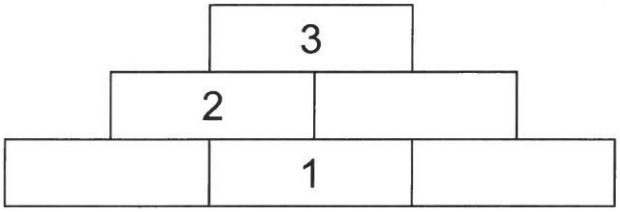
18 Theo thinks of a number and finds that three quarters of it is 24.

What was the number he first thought of?

ANSWER.....

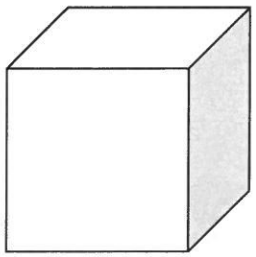
---

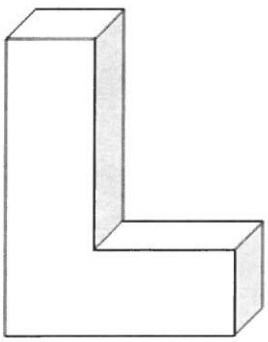
19 Complete this subtraction pyramid, where numbers in the boxes are the difference of the two numbers below.



---

20 A cube has 8 vertices (corners), 6 faces and 12 edges.
How many vertices, faces and edges does the L – shape have?





VERTICES.....

FACES.....

EDGES.....

---

21 (a) What is 0.32 as a fraction? Give your answer in its simplest form.

ANSWER.....

(b) What is eighteen fortieths as a decimal?

ANSWER.....

---

22 What is 30% of 1600?

ANSWER.....

---

23 One quire of paper is equal to 24 sheets.
One ream is equal to 20 quires.
How many sheets are there in 2 reams?

ANSWER.....

---

24 What is 0.2 x 0.3?

ANSWER.....

---

25 (a) How many centimetres are there in 1.4 metres?

ANSWER.....

(b) How many millimetres are there in 2.3 kilometres?

ANSWER.....

---

26 Three prime numbers multiply together to get 110. What are they?

ANSWER.....

---

27 Milly has some marbles at the start of the week.
One day at school she does well in her marble games with her friends and increases her total by a tenth.
The next day is not so good and she loses a tenth that time.
Has she ended up with more, less or the same as she had at the start of the week?
Explain your answer carefully.

ANSWER.....

REASON.....

.....

.....

.....

---

28 Amrit, Brenda and Clare share 13 sweets. Amrit gets three times as many as Brenda, and Brenda gets three times as many as Clare. How many do they each get?

AMRIT.....

BRENDA.....

CLARE.....

---

29 Gina finished her homework at 8:24pm having started at 6:52pm.
How many **minutes** did she spend on it?

ANSWER.....

---

30 A recipe for 12 cakes needs 200g of flour.
Isaac has 250g of flour.
How many cakes could he make?

ANSWER .....

---

31 A rectangle has an area of 20cm^2. Its sides are doubled to make a new rectangle.
What is the area of the new rectangle?

ANSWER.....

---

32 A clock's hands are at right angles when it shows the time 3 o'clock.
How many times are the hands at right angles again before 5 o'clock, 2 hours later?

ANSWER.....

---

33 Emma has a rectangular card 6cm by 9cm. She colours in a border of 1cm around the edge. The border is 1cm thick throughout. What fraction of the area of the rectangle is coloured in?

ANSWER.....

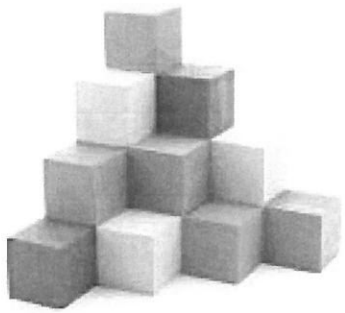
---

34 The first term of a sequence is 50, the second is 46 and the third is 42, and so on. How many terms are there until the first negative term?

ANSWER.....

---

35 Nicholas makes this out of children's building blocks.
How many blocks did he use?



ANSWER.....

---

36 Jaishan notices that if he squares two numbers and finds the difference of his answers he gets the same result as multiplying the sum and the difference of the two numbers.

For example, if he chooses 9 and 3: $9^2 - 3^2 = 81 - 9 = 72$

and $(9 + 3) \times (9 - 3) = 12 \times 6 = 72$

Show that this works with the numbers 6 and 2

ANSWER.....

.....

.....

.....

Jaishan uses this to find $83^2 - 17^2$ WITHOUT using long multiplication.
How did he do it and what is the answer?

ANSWER.....

.....

.....

.....

37 Bob has 15 more Match Dfex cards than Alan
Colin gives Bob 25 cards.
Bob now has 3 times as many as Alan.
How many has Alan got?

ANSWER.....

---

38 A Langford number has two 1s separated by 1 digit, two 2s separated by 2 digits etc.

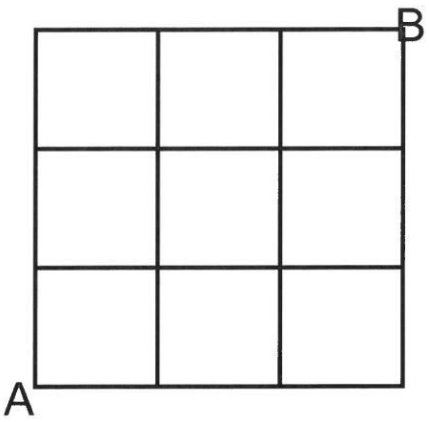
For example, 312132 is a Langford number.

Complete this Langford number which has two 1s, two 2s, two 3s and two 4s.

2 3 _ _ _ _ _ _

---

39 In this map of Squaretown, Tomasc is going to walk from A to B.
He only ever walks north (up the map) or east (to the right on the map).
How many different possible routes are there?



ANSWER.....

YOU HAVE NOW COMPLETED THE EXAMINATION.

IF YOU HAVE TIME GO BACK AND CHECK YOUR ANSWERS.