FOREST SCHOOL
SAMPLE ENTRANCE EXAMINATION
MATHEMATICS

Calculators are **NOT** allowed
Time: One hour

NAME. . . . .

CANDIDATE NUMBER . . . .

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1   Work out   76 + 65

ANSWER . . . .

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2   Work out   92 – 57

ANSWER . . . .

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3   Work out   73 x 8

ANSWER . . . .

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4   Work out   868 ÷ 7

ANSWER . . . .

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5   How many £5 notes are needed to make £1000 ?

ANSWER . . . .

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6   How much change would I get from £20 if I bought 3 pens at £1.60 each, 2 pencils at 62p each and a magazine for £4.50 ?
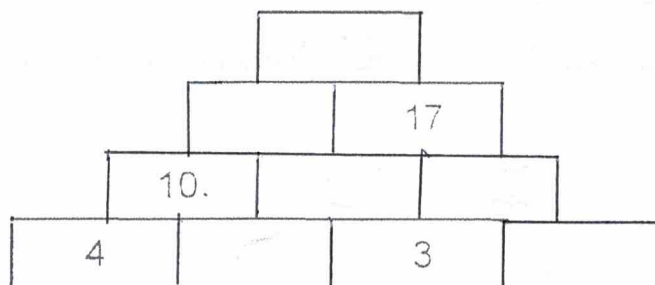
ANSWER.........

7   How many seconds are there in one week ?

ANSWER.......

8   Daisy the cow takes 1 hour to walk 4 km. Silver Blaze the horse walks 3 times as fast as Daisy. At this speed how long would it take Silver Blaze to walk 4 km ?

ANSWER...:   '................

9   In this pyramid each number is the sum of the two numbers below it. Complete the boxes.

		17	
10.			
4		3	

10   Theo has taken 4 tests and his average mark is 60%. He scores 70% on his fifth
      test. What is his average now?

                                                ANSWER. . . . .

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11   Priya has 5p and 13p stamps. She can make a 36p total with two 5p stamps and
      two 13p stamps. How could she make the following totals?

      (a) 33p

                                                ANSWER. . . . .

      (b) £1.26

                                                ANSWER. . . . .

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12   How could this sequence continue?

          3, 7, 11, . . . , . . .

Give the next 2 numbers with a reason for your answer.

ANSWER. . . . . REASON. . . . .

                                                                      TURN OVER

13   16 counters are arranged to make a 6 counter by 4 counter border.
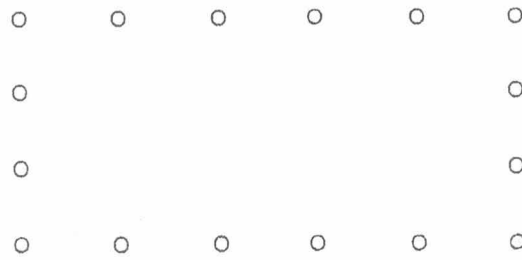
How many counters are needed to make the following?

(a) A 20 counter by 5 counter border

ANSWER.................................

(b) A 200 counter by 50 counter border

ANSWER.................................

14   Write in digits the number "four million four hundred and four".

ANSWER.. ....

15   A 9 cm wide marble just fits inside a cube-shaped box. How many 3 cm wide marbles would fit inside the box?

ANSWER. ....

16 In Norton Juster's book *The Phantom Tollbooth* we learn that the hero, Milo, smiles warmly on average 47 times a day.
How often would you expect him to smile warmly in January? (There are 31 days in January)

ANSWER................................

17 On one day in 2008 £1 was worth $1.25. What was $1 worth in pence on that day?

ANSWER.........................

18 Find the missing prime number

29, 31, ? , 41, 43

ANSWER.... ....

19 A maths book costs £15.49. How much change do you get if you pay only with £1 coins?

ANSWER. ....

20   Gavinder is 11 years and 2 months old.
        Bhavash is 10 years and 8 months old.
        Siobhan is 9 years and 5 months old.

        What is their average age in years and months?

                                    ANSWER......   ....

21   In a bag there are twice as many blue balls as red balls. There are 18 balls
altogether. How many blue balls are there?

                                    ANSWER....... ....

_____

22   Ayesha has some sweets. He gives $\frac{1}{6}$ of them to Neelesh.

        Neelesh immediately eats one of them.
        Neelesh now has 4 left.
        How many has Ayesha got left?

                                    ANSWER.................

23 A film lasts 2 hours 20 minutes.
I start watching it at 7:45pm.
At what time does it finish?

ANSWER.....................................

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24 Multiply 21 by $\frac{2}{7}$

ANSWER.....................................

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25 Mike's copy of Leo Tolstoy's *War and Peace* is 981 pages long.
Mike decides to read 25 pages a day.
He finishes the book in how many days?

ANSWER.....................................

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26 Rule: If a card has a vowel on one side, then it has an even number on the other side.

| 7 | 4 | A | D |

Which one of these four cards **cannot** have a 7 on the back?

ANSWER.....................................

27   What is $\dfrac{1}{3}$ of 414?

ANSWER....\.

28   Complete these sequences of clockwise quarter turns
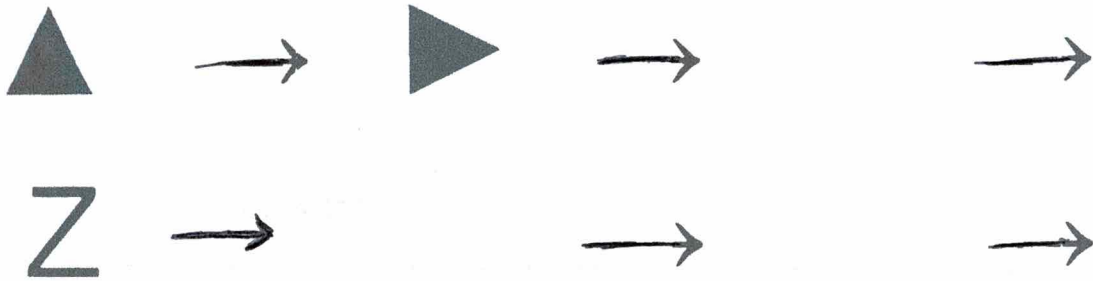
29   What is 0.15 as a fraction in its lowest terms?

ANSWER – ....

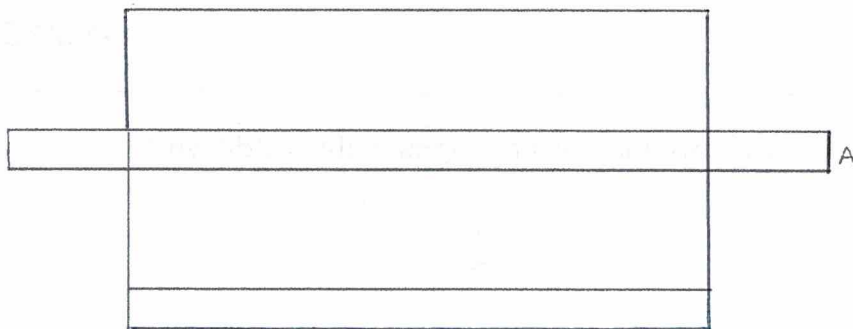30   What is 1.83 + 0.2?

ANSWER = ...

31   The Ancient Egyptians generally only used "unit fractions", having the number 1 as numerator (such as $\frac{1}{3}$ or $\frac{1}{7}$).

So they might write $\frac{5}{18}$ as $\frac{1}{9} + \frac{1}{6}$

Write $\frac{2}{3}$ as the sum of 2 or more DIFFERENT unit fractions.

ANSWER.......... ....

32   This net is folded to make a box.
       Mark clearly the edge which ends up next to edge A.

33   Find the number of different ways of arranging the letters CYZZ by listing them all.
The first two are done for you.

CYZZ, CZYZ, ...

TOTAL NUMBER OF WAYS.. ....

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34   In a chess league there are 3 teams and they all play each other once.
How many matches are there altogether?

ANSWER................................

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35   What are the missing digits in this **addition**?

        1   ▲   7

        9   1   ■
    _____

    §   #   5   1

ANSWER   ▲ – ....

          ■ = ...

          # = ...

          § = ...

36   Subtract 0.02 from 1.3

ANSWER..

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37   What number is halfway between 1.9 and 1.99?

ANSWER..

38

$\blacktriangle$ $\quad \srarrow$ $\quad \square$ $\quad \sun$ $= £16$

$\srarrow$ $\quad \square$ $\quad \sun$ $\quad \sun$ $= £20$

$\sun$ $\quad \blacktriangle$ $\quad \blacktriangle$ $\quad \blacktriangle$ $= £16$

$\srarrow$ $\quad \srarrow$ $\quad \srarrow$ $\quad \blacktriangle$ $= £6$

Using the totals given, can you calculate the price of each of the four shapes?

$\blacktriangle$ =..

$\srarrow$ =..

$\square$ =..

$\sun$ =..

TURN OVER

39 Jenny is doing a maths exam and scores 136 out of 214.
    How many marks did she miss out on?

    ANSWER..

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40 What is the 102nd letter of this sequence of letters?

    A E I O Ü A E I O U A E etc.....

    ANSWER..

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41 Prashant wants to tape "The Y Factor" one Saturday evening.
    It starts at 7:20pm and ends at 9:10pm
    He uses a three hour tape.
    How may spare minutes will he have on the tape when he has finished recording?

    ANSWER..

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42 Romily and Reema are collecting money for charity.
    Romily collects £10 more than Reema.
    Altogether they collect £240.
    How much did Reema collect?

    ANSWER..