5

Registration No: ....

Surname: .....

First Name: .....

THE LATYMER SCHOOL

MATHEMATICS ENTRANCE TEST 2002

Time allowed: One hour

Read these instructions before you start:

- There are **50 questions** in this paper and each question is worth **one mark**. Work through the questions in the order that they appear. There may be some questions that you cannot do. Leave these and go on to the next question: you may have time to return them at the end for another attempt.
- Use the space by each question to work out your answer. The blank pages may be used for working if there is not enough space by the question.
- You may use a pen or a pencil for this test.
- **Calculators are not allowed.**

Mark	Examiner

This paper consists of **50 questions** on **9 printed pages.**

LATYMER SCHOOL
MATHEMATICS ENTRY TEST 1 hour

1. Write down in figures the number which is **100 less than one million.**

Answer _____

2. How high is the door to your bedroom ?
Circle the answer which is closest.

40cm **4m** **200mm** **200cm** **20m**

3. **Three** coaches are hired for a school trip. Each can seat **51** people.
When they leave **two** coaches are full, but the other is only **one third** full.
How many people go on the trip ?

Answer _____

4. If $3 \times \blacksquare - 4 = 17$
what number has been hidden by ■ ?

Answer _____

5. A football match lasts **90 min** (there is no 'extra time').
61 min 17 sec of the game has been played and England must score !
How long have they got to do so ?

Answer _____ **min** _____ **sec**

6. Circle **all** of the numbers below which **cannot** be divided exactly by **7**

105 **91** **162** **840** **114**

7. It will be **-3 degrees** tomorrow.
Even so, this is **18 degrees** warmer than the forecast for Moscow.
What temperature is expected for Moscow ?

Answer _____ degrees

8. Every day in autumn a tree **loses** $\frac{1}{3}$ of the number of leaves it started the day with. One morning in autumn a tree has **270** leaves. How many will it have at the end of the **next** day ?

Answer_____leaves

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9. How many **hundredths** are there in **three tenths** ?

Answer _____ hundredths

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10. 

A radio station offers prizes to any listeners whose birth date has numbers adding up to **42**.
Maria does **not** win because her birth date is **10. 5. 1994** and
1+0+5+1+9+9+4 = 29
Josh was born in **September 1993**, and he wins a prize !
Write down Josh's birth date.

Answer _____.____.**1993**

---

11. Add together **half of 21**, and **half of 42**, and **half of 37**.

Answer _____

In questions 12 and 13 write down the next number in the sequence:

12.

5 11 18 26 35 Answer_____

....

13.

80 78 74 66 50 Answer_____

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14. An old car does **32** miles for **£4** of petrol. My grandchildren live **36** miles away. how much does it cost me to travel there and back ?

Answer £_____

15. Every second **1** litre of water pours into the bath, but every **10** seconds **1** litre leaks out. How much water is in the bath after **5** minutes ?

Answer _____ **litres**

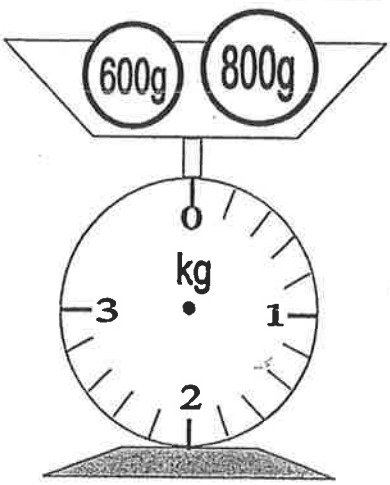
16. Find the total cost of **1½ kg** of pears costing **£1.48** a kilogram, and **4** oranges at **29p** each.

Answer £_____

17. Lisa has **9** more Spiderman stickers than Jake. Between them they have **105** stickers. How many does Jake have ?

Answer _____

18. Put the arrow on the scales to show the weight.



19. In a raffle **50** red , **40** blue and **30** green tickets are sold.
What is the probability that the winning ticket is **green** ?
Give your answer as the simplest possible fraction.

Answer _____

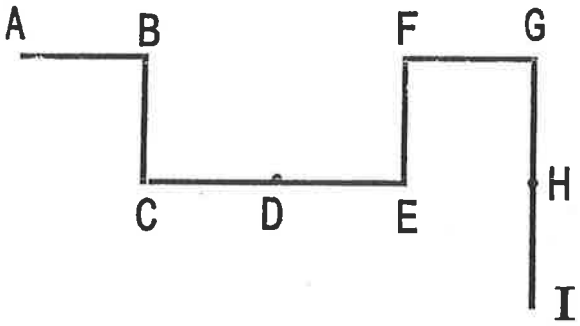
20. Tina is **13** years of age. Mum says to Tina " In **2** year's time I will be **3** times as old as you will be then ". How old is mum **now** ?

Answer _____ years

21. The probability that a seed **will** grow is $\frac{2}{5}$. If I plant **100** seeds how many will **not** grow ?

Answer _____

22.



A tortoise takes **2** hours to run from **A** to **I** running at the same speed for all of this time.

How long in minutes does it take to get from **A** to **F** ?

Answer _____ min.

23. Think of a number between **5** and **10**.
Double it, **subtract 1**, **multiply** your answer **by 3** , add **9** , **divide** this new answer by **6** , **subtract** the number you first thought of.

Write down your final answer here _____

24. A number can be 'zapped' by multiplying its digits.
So **235** 'zapped' is equal to **2 x 3 x 5 = 30**
What is the **smallest** number which can be 'zapped' to give an answer of **24** ?

Answer _____

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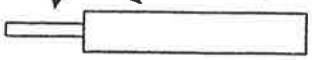
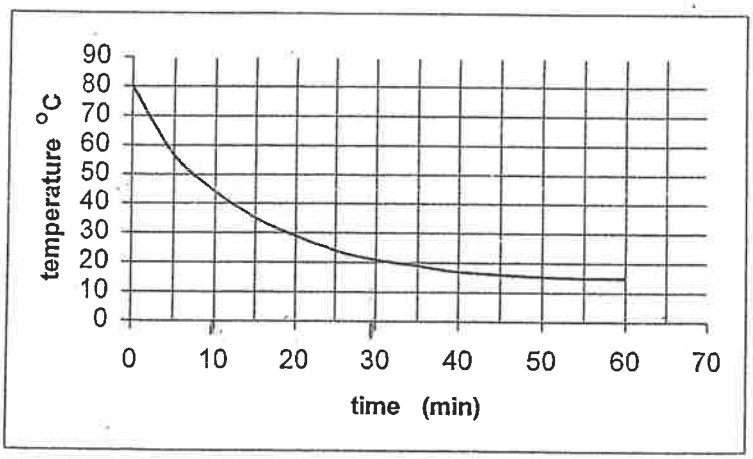
25. A telescope has **two** parts each is **20cm** long.



When extended fully they overlap by **3cm** in the middle.
How long is the fully extended telescope from end to end ?

Answer _____ cm



After making a cup of tea, Jo always forgets it and lets it get cold.
The graph shows how it cools down.
Use the graph to answer questions 26 and 27 below.

26. How many minutes does it take for the temperature to reach 50° ?

Answer _____ min

....

27. For how long is the temperature between 45° and 20° ?

Answer _____ min

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28. If the sum **824 x 719 x 13** = _____ was worked out,

what number would be in this last place ? (try to think of a quick way to do this !)

Answer _____

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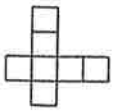
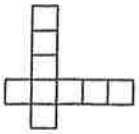
29. Here are some shapes:

shape number	1	2	3	x
				
number of squares	**5**	7	**9**	**formula ?**

Put a circle round the formula for the number of squares in shape number ' x '

3x + 2 3x + 1 2x + 3 5x – 3 2x + 5

30. Write in order, smallest first:

$\frac{1}{4}$ 23% $\frac{1}{5}$ 0.21 $\frac{19}{100}$

Answer .....

31. Every birthday after she was **65** Nan took one year off her age instead of adding it on.
She now says she's **57** .
How old is she really ?

Answer _____

32. What is the angle x at **5** o'clock ?

Answer _____ degrees

33. An old record makes **45** complete rotations **every minute.**
How many times does it rotate in order to play a track lasting **2 min 12 sec** ?

Answer _____ times

34. 

Santa's beard is **18cm** long. He did not have a beard in the summer because sand gets in it when he's on the beach. It grows **2mm** every day.
How long did it take to grow ?

Answer _____ days

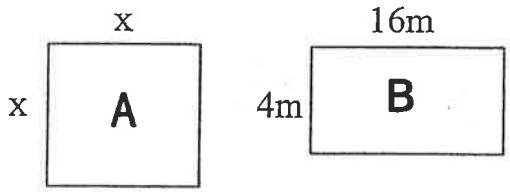
35. Jenny can run to the post box and back in **1 min 47 sec.**
Her grandad takes twice as long. How long is that ?

Answer _____ min _____ sec

36. The average number of goals scored by Latymer's year 7 football team in their first five games so far is **2** .
If they scored **1, 4, 3, and 2** in their first 4 games, what did they score in the fifth ?

Answer _____ goals

37. Square **A** has the same **area** as rectangle **B**. What is x



Answer x = _____ m

38. Paint is mixed to a formula **3 parts red, 2 parts blue, 7 parts yellow.**

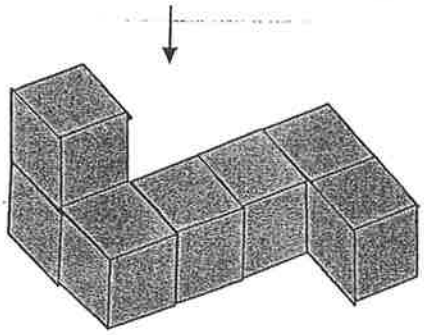
In a pot of this paint (which does not sell very well !) there are **21 parts red**, how much yellow is there ?

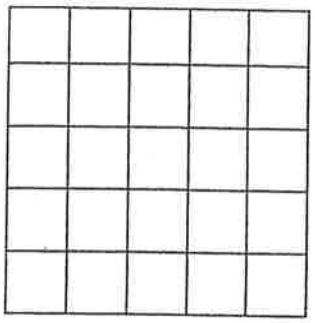
Answer _____ parts yellow

39. In another tin there are **480ml** of the same paint.
How much blue is there ?

Answer _____ ml

40. Shade in squares on the grid to show what you would see if you looked at the object from above.

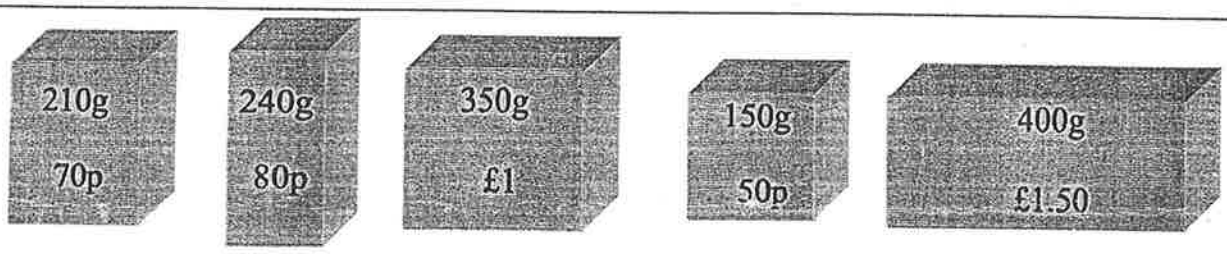




41. Robin has already bought his Christmas cards ; he got **25** cards for **£2.00** .
Each will need a second class postage stamp costing **22p**.
How much does it cost Robin to buy and send one card ?

Answer_____ pence

42.



A B C D E

Which is the **best** value ? Circle one of the letters A, B, C, D, or E above.

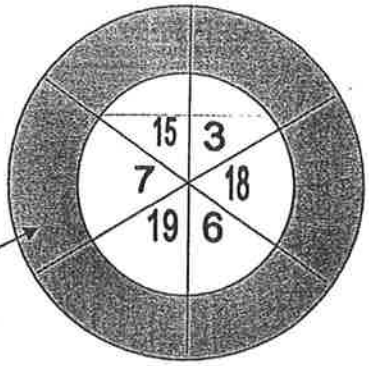
43. A princess bit an apple and fell asleep on December 28th 1461.
She did not wake up until kissed by a handsome prince on January 6th 1463.
Counting both of these days how long was she asleep ?

Answer _____days

44. 80% of teachers in a school own a car.
If 16 teachers own a car how many teachers are there in the school ?

Answer_____

45. With **2 darts** left Ali has to score **43.**
Each dart must hit the target and the last must land in the shaded bit which is worth double the number at the centre.
Mark with an **X** where each dart must hit the target.



(worth 2 x 7 = 14)

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46. Circle the fraction which is closest to $\frac{1}{4}$

$\frac{11}{40}$ $\frac{21}{80}$ $\frac{31}{120}$ $\frac{41}{160}$ $\frac{51}{200}$

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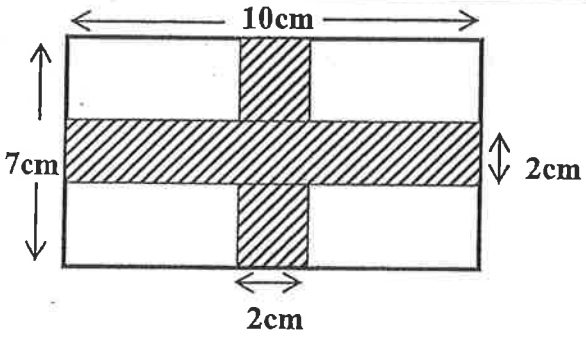
47. 

Work out the area of the cross.

Answer _____ square cm

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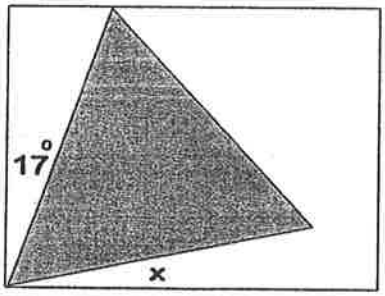
48. 

The diagram shows an equilateral triangle in a rectangle.
What is the angle x ?

Answer x = _____ °

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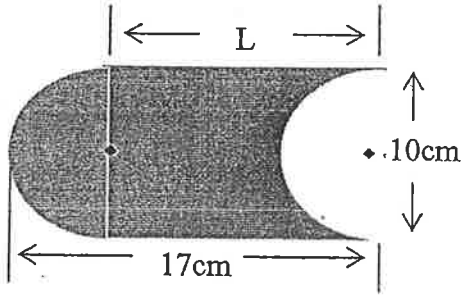
49. 

What must length L be in the diagram ?

Answer L = _____ cm

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50. Every number in this row is made by adding the two numbers before it.

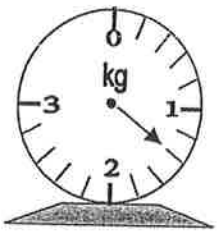
□ , □ , □ , **0 , 1 , 1 , 2 , 3 , 5 , 8** (8 = 5 + 3)

Put the missing numbers in the boxes.

End of test. You may go back and check earlier questions.

LATYMER MATHEMATICS ENTRY TEST (5) ANSWERS

1. 999900
2. 200cm
3. 119
4. 7
5. 28min 43sec
6. 162, 114 must have both
7. -21 degrees
8.* 120 leaves (270 – 90) – 60
9. 30 hundredths
10.* 29. 9. 1993 [not 11. 9. 1993]
11. 50 [½ x (21+42+37)]
12. 45
13. 18
14. £9
15. 270 litres
16. £3.38
17. 48 [(105 – 9) ÷ 2]
18.

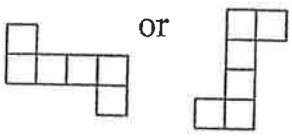


19. ¼ simplest form
20. 43
21.* 60
22. 75 min (1 h 15 min)
23 1 (works for all numbers)
24.* 38 (smallest, so not 138)
25. 37cm
26. 7 -- 7½ min
27. 19 -- 22 min
28. 8 (last digit of 4x9x3)

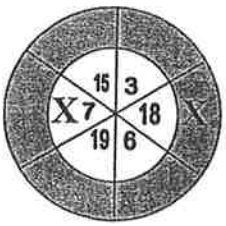
29.* 2x + 3
30.

$\frac{19}{100}$ $\frac{1}{5}$ 0.21 23% $\frac{1}{4}$

31. 73 (yrs)
32. 150 degrees
33. 99 times
34. 90 days
35. 3 min 34 sec
36. 0 (zero, nil, none, etc)
37. 8 m
38. 49 parts yellow
39.* 80 ml
40.



41. 30 pence
42. C
43.* 375 days
44. 20
45.



46. $\frac{51}{200}$
47.* 30 square cm.
48.* 13 degrees
49.* 12 cm.
50.* 2, -1, 1.

* harder than most
mean score 31.0
median score 31.2