



**PLEASE NOTE:**  
Papers 1 – 6 have been discontinued.  
For 2010 the packs contain  
6 Mathematics Papers Numbered 7 - 12

Test No: **12**

Surname: .....

**SAMPLE TEST  
FOR SALE**

First Name: .....

**THE LATYMER SCHOOL**  
**MATHEMATICS ENTRANCE TEST 2010**

**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 to 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.**

Correct	Wrong	Examiner

This paper consists of **50 questions** on **5 printed pages**.



LATYMER SCHOOL  
MATHEMATICS ENTRY TEST 1 hour

2009

1.  $20000 - \text{cloud} = 158$

What number is under the cloud ?

Answer .....

2. Add up all the **odd** numbers between **80** and **90** .

Answer .....

3. Put + , - , x , or ÷ in the boxes to make this sum correct

$7 \square 4 = 112 \square 4$

4. Jay can read a **280** page book in **6** hours.  
How long would it take Jay to read a similar **420** page book ?



Answer.....hours

5. Carl weighs **43.07 kg** .  
Aden is **95 grams** heavier.  
How much does Aden weigh in kg ?

Answer.....kg

6. Jack has **27** socks in a drawer. ( he doesn't understand why there's an odd number ).

$\frac{1}{3}$ rd of the socks are grey.

Of the others  $\frac{5}{9}$  ths are black, and the rest are more exciting colours.

How many exciting socks does Jack have ?



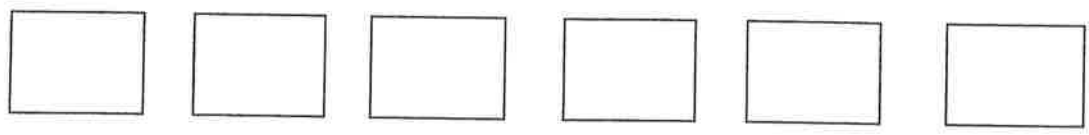
Answer.....



7. There are **6000400** people living in London.  
How many do you think were born on a Monday ?

Answer.....

8. Amy has **6** coins in her purse totalling **94 p**.  
Write down what they are in order, starting with the largest amount on the left.



9. A wooden plank **2.68 m** long is sawn into **two** pieces so that one piece is **three times** as long as the other.  
How long in metres is the **shorter piece** of the two ?



Answer.....metres

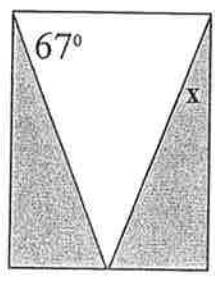
10. Here are five numbers .....

- 1.011      1.101      0.111      1.01      1.11

Subtract the smallest from the largest.

Answer.....

11.



Two identical triangles are shown inside a rectangle.  
What is the angle marked  $x$  ?

Answer  $x = \dots\dots\dots$ degrees

12.

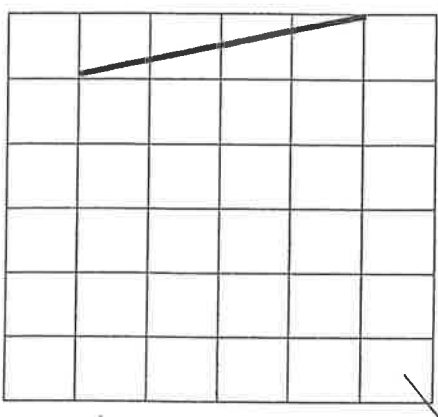
$$39 \times 4832 = 188448$$

$$13 \times 4832 = \rightleftarrows$$

Answer  $\rightleftarrows = \dots\dots\dots$



13.



A line is drawn for you on the grid.  
Add three more lines to make a square.  
( do your best without a ruler )

.....

14. If each little square in the above grid  has an area of 1 square cm, what is the area of the square you have drawn in no. 13 ?

Answer.....square cm

15. Jim buys Smoothy fruit drink in the shop.  
A **400ml** bottle costs **£1.19** , and a **2 litre** carton costs **£4.99**.  
Jim wants to buy **two litres**.  
How much is saved by buying a carton rather than the same amount in bottles ?

Answer **£** .....

16. If you really rushed this test, **and finished** very early having answered all the questions, but got 44% of them wrong ..... how many questions would you have got right ?

Answer.....

17.

$$2.8 \times 31.2 = 87.36$$

$$280 \times 0.312 = \square$$

Answer  = .....



18. The first three in a golf championship share the prize money of **£36450**.  
 First place gets three times what the second place gets, and second gets twice as much as the third placed golfer.  
 How much prize money is given for **third place** ?



Answer £.....

	Birmingham	Cardiff	London	Manchester	Newcastle
Birmingham		179	188	127	334
Cardiff	179		269	278	489
London	188	269		298	441
Manchester	127	278	298		212
Newcastle	334	489	441	212	

The table shows that, for example, London is 269 miles from Cardiff.



19. Sheena travels from **Newcastle** to **Birmingham** to **Cardiff**.  
 Jo travels from **Newcastle** to **Manchester** to **Cardiff**.  
 How much shorter is Jo's journey ?

Answer.....miles

.....

20. **Jo** claims expenses of **20p** a mile for using her own car for her journey.  
 ( she is not a Member of Parliament ) How much does Jo claim in expenses ?

Answer £ .....

21.



I go to the supermarket in my car **60** times a year. The probability that I can't remember where I've parked my car in the supermarket car park is  $\frac{3}{5}$

It then takes me an average of **4** minutes to find it. How long in hours and minutes do I spend in a year looking for my car ?

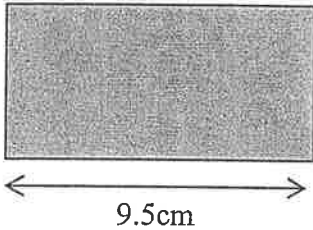
Answer .....hours.....min

22.

Jamil is doing a sponsored walk. He hopes to raise **£100**. He is promised **£7.50** for each whole lap of the school field. What is the least number of whole laps that he must complete to raise **£100** ?

Answer.....laps

23.



The **perimeter** of the rectangle is **27cm**. What is the **area** of the rectangle ?

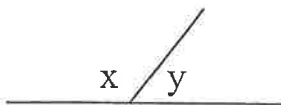
Answer .....square cm

24.

**195** new pupils have to be put into **6** classes, but no class can have **2** or more pupils more than any other class. What is the greatest number of pupils in a class ?

Answer.....pupils

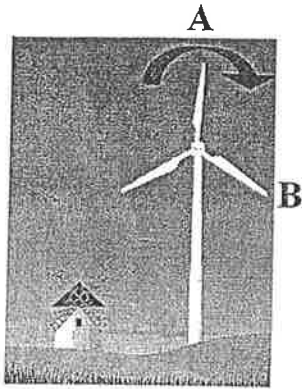
25.



The angle **x** is **40° bigger** than angle **y**. What is angle **y** ?

Answer **y** = .....degrees

26.



As the wind turbine rotates it takes **0.8 seconds** for the sail at **A** to reach the point **B**.  
How many **complete turns** does the sail do in **one minute** ?

Answer.....turns

27. **30%** of Arsenal fans have an IQ of more than 120.  
There are **35500** Arsenal fans at a match; how many of these have an IQ of more than 120 ?

Answer.....

28.



Peter wastes **1.9** litres of water by leaving the tap running every time he cleans his teeth.  
He is a good boy in that he cleans his teeth **twice a day**, but how much water did he waste in August ?

Answer .....litres

	Mon	Tues	Total for 2 days
Sparrow	4		5
Blackbird		6	10
Magpie	5		
Pigeon		3	
<b>TOTAL</b>		16	36

Alice keeps a record of birds seen in her garden over a period of two days.

Several entries are missing.

You may write in the table but put your answers below. ↓

29. How many **pigeons** were seen on **Monday** ?

Answer.....

.....

30. How many **magpies** were seen over the **2 days** ?

Answer .....



31. The 24th of January 1995 was a 'Superday' because if you study the date 24 / 01 / 1995 and carefully do this with the numbers .....

$$24 \times 1 = 24$$

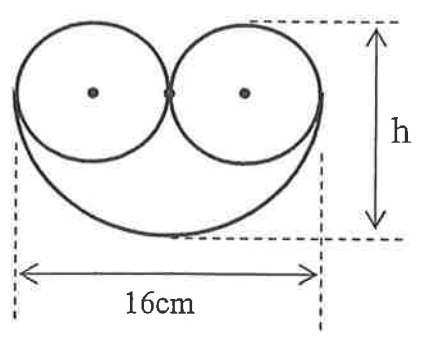
and

$$1 + 9 + 9 + 5 = 24$$

Counting this one, how many 'Superdays' were there altogether in 1995 ?

Answer.....

32.



• = centre of small circle  
Two identical small circles are just able to rest in a larger semi circle as shown.

What is the length h ?

Answer h = .....cm

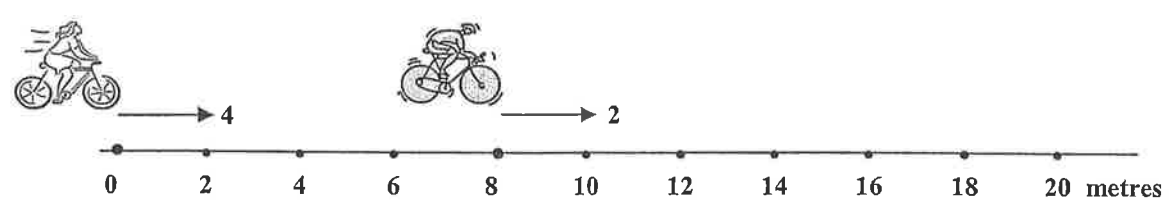
33. The minimum wage for any adult working in this country has gone up from **£5.73 an hour** to **£5.80 an hour**.

Carly is paid the minimum wage for working **40** hours a week, **45** weeks in a year.

By how much has Carly's yearly wage increased ?

Answer £ .....

34.



Annie starts at **zero** on the line, cycling at **4** metres per second.  
At the same time Ben starts at **8m** on the line, cycling at **2** metres per second.  
Mark clearly with **X** on the line where Annie draws level with Ben.

35. Put the missing number in the box.

0.5	x	□	=	□	0.1
-----	---	---	---	---	-----



Grebit is practising to become a *superfrog*. To be a *superfrog* Grebit has to achieve a jump of more than **1.5m**.

His first jump is **57cm** and every jump after that is **19cm** more.

36. Counting his first one, how many jumps must Grebit do to become a *superfrog* ?



Answer .....jumps

37. Adding up **all** these jumps, how far in **metres** does Grebit jump altogether ?

Answer .....m

38. Jenny is **28** years younger than her dad, and their ages add up to **60** years.  
How old is dad ?



Answer .....years

39. Grandad says 'Grandma is **seven – eights** of my age'.  
If Grandma is **84**, how old is **Grandad** ?



Answer .....years

40. Some items on Jacob's shopping list are on special offer, but not all of them.

- Pure orange juice ..... **£1.96** (2 for the price of 1)
- Chicken .....**£5.99** (2 for the price of 1)
- Bread .....**£1.09**
- Milk .....**£1.53**
- Cheese .....**£3.79** (2 for the price of 1)



If Jacob buys **TWO** of everything above, how much does it cost him ?

Answer **£** .....



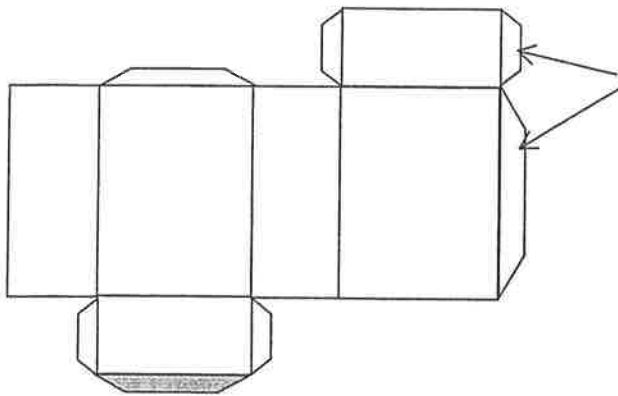
41. Subtract  $\frac{1}{4}$  of 2.3 from  $\frac{1}{4}$  of 6.7

Answer .....

42. In the greenhouse Carol is putting her seedlings into pots, which need to be filled with **300 ml** of compost.  
She has a **75 litre** bag of compost; how many pots can she fill with this ?

Answer .....pots

43.



The piece of cardboard shown here will be folded to make a closed box. All the flaps are glued so that it sticks together.

Mark with **X** the edge that the shaded flap sticks to.

44. A visit to a theme park costs **£13.00** for adults and **£7.00** for children.  
If the total cost for a group visiting the theme park was **£88.00** , how many **children** were there in the group ?

Answer .....children

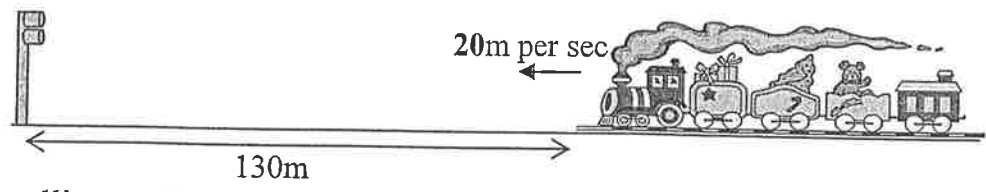
45. Aiden scored **10 out of 10** for each of his first **3** spelling tests this term, but after **4** tests his average was **9 out of 10**.  
How many out of 10 did Aiden get for his 4<sup>th</sup> test ?

Answer.....

46. Put the three missing digits in the boxes.  
( for example  $\boxed{2} \boxed{3} \times \boxed{5} = 115$  )

$$\boxed{\phantom{00}} \boxed{\phantom{00}} \times \boxed{\phantom{00}} = 201$$

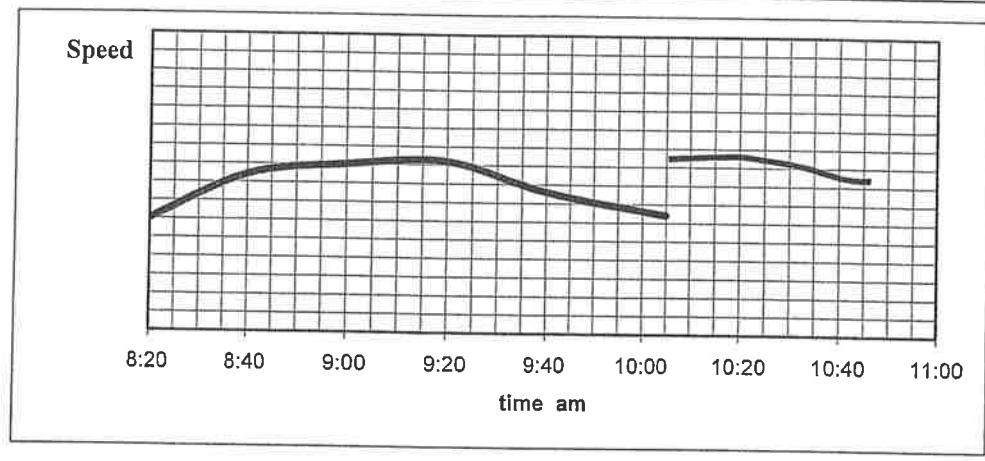
47.



A train travelling at **20** metres per second is approaching a signal which is **130m** away. The length of the train is 60m.  
 How long does it take for the **whole train** to pass the signal ?

Answer .....sec

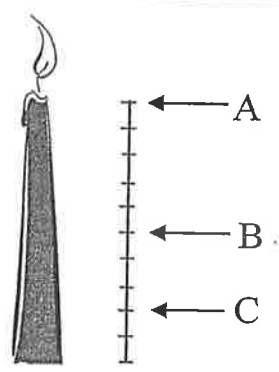
48.



A runner in a marathon gets a sudden boost of energy **20 min. after** taking a super glucose drink from the side of the road.  
 At what time did he take the drink ?

Answer .....

49.



A candle takes **3hours 45 minutes** to burn down from A to B  
 Assuming it burns at the same rate, ( in spite of its shape),  
 how long will it take to burn down from B to C ?

Answer .....h.....min

50. The points  $(-3, 0)$ ,  $(-1,2)$ ,  $(4,7)$ , and  $(88, y)$  all lie on the same straight line.  
 What is the value of  $y$  ?

Answer  $y = \dots\dots\dots$



## LATYMER SCHOOL MATHEMATICS ENTRY TEST 2009

### ANSWERS AND EXAMINER'S COMMENTS

This was a paper that produced a mean of 28 and a range of scores from 2 to 48 out of 50. However in spite of there being a lower mean than that in recent years, no single question seemed inaccessible to candidates, likewise, no question was answered correctly by all. What was evident this year was the high incidence of simple numerical errors in applying the basic 'four rules', and carelessness in reading questions, even though crucial details are emphasised in **bold**.

Candidates should also be mindful of the sense of their answers; markers saw one ninth of a sock; 8784 special days in a year; granddad being 247 years old; £14020 in expenses for a single car journey.

1.     **19842**           Most were correct, though some read 20000 as 2000.
2.     **425**             Answered well.
3.     

x

÷

     Most found this easy.
4.     **9**               Applicants found this quite hard, either to see that 420 is half as much again as 280, or there is a need to work in minutes with some 'cancelling'.
- 5.\*    **43.165**         Many errors, not knowing that 95 grams = 0.095 kg, hence 44.02 popular
- 6.\*    **8**               Careless reading here, in spite of '**of the others**' in bold. '3' common error.
7.     **857200**         Answered well.
8.     **50, 20, 20, 2, 1, 1** or **50, 20, 10, 10, 2, 2**    most correct.
9.     **0.67**           Discriminated: some divided by 3 instead of 4. Some decimal pt. problems.
10.    **0.999**         Discriminated well. Decimal points were not always written clearly enough.
11.    **23**             Many candidates remain very unsure about angles.
12.    **62816**         A pleasing number of correct answers, but not always by  $188448 \div 3$
- 13\*    

x

÷

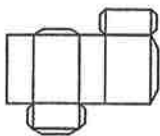
     Many could not visualise this square, some of the strangest shapes appeared !
- 14\*    

x

÷

     An area of 17 squares by counting whole squares and pieces of square, (unless one was able to use Pythagoras). A limited number were correct.
- 15     **£0.96**         Answered well
16.    **28**             Many simple errors in this, particularly ' $100 - 44 = 66$ '.
17.    **87.36**         Good number of correct answers, but several attempted long multiplication !
- 18.\*   **£4050**         Proved a difficult question. Few were able to see 1:2:6 meaning  $\div 9$ , not 6.
19.    **23**             Discriminated.
20.    **£98**            Approx 60% correct. Many decimal point errors.
21.    **2h 24min**     Well answered.  $144\text{min} \neq 1 \text{ hr } 44\text{min}$ .
22.    **14**             Many answers of '13', without checking.



23. **38** Good, but '76' a common mistake, not having divided the remaining perimeter by 2 to get a side of 4cm.
24. **33** Not found easy
25. **70** This required some thought (or trial and error). Angles remain problematic.
- 26.\* **25** Found to be difficult, but some very neat solutions.
27. **10650** Discriminated.
28. **117.8** Answered quite well, but many decimal point errors in multiplication.
29. **7** Usually well done, the markers were sympathetic about finding answers in the table which were not transferred to the answer space.
30. **11**
- 31.\* **7** Poorly done.
32. **12** Shape and space questions still prove challenging.
33. **£126** Several candidates found themselves lost in this one, arriving at answers in excess of £1000000 from a 7p increase in the minimum wage.
34. ~~16~~ Answered well.
35. **0.2** A pleasing number of correct answers.
- 36.\* **6** Misread by many. 'Counting his first jump' gave the required answer.
- 37.\* **6.27** Relatively few correct.
38. **44** Discriminated well.
39. **96** Well done those who added one seventh of 84 on to 84. Otherwise poor.
40. **£16.98** A pleasing response..
41. **1.1** Disappointing in that few chose  $\frac{1}{4} (6.7 - 2.3)$ .
- 42.\* **250** Lots of 25's or 2500's ..... 1 litre = 1000 ml appeared to be unknown.
43.  Answered quite well.
- 44.\* **7** This particular combination of 7's and 13's caused problems.
45. **6** Discriminated well.
46. **67 x 3** Nicely done
- 47.\* **9.5** Found to be hard; perhaps rushed at this stage of the paper.
- 48.\* **9:45/46** Disappointing, some information in the question was not taken into account.
49. **2h 15min** Answered well by those who reached this one. Errors however in changing minutes to hours and minutes.
50. **91** A pleasing number of correct answers.

Questions marked \* proved harder than most