



**11+ ENTRANCE EXAMINATION  
IN MATHEMATICS**

**SYLLABUS & SPECIMEN QUESTIONS**



*Specimen Questions (note this is not a whole paper, nor does it reflect the structure of the paper which is not broken into sections). The actual paper will increase in difficulty as the student progresses through it.*

**Number:**

1. What is the *smallest* possible number you can write down using these figures, once each ?

**2 6 7 3**

*Ans:*.....

What is the *largest* possible number you can write down using these figures, once each ?

**2 5 6 4**

*Ans:*.....

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2. Calculate the following

3. Jimbob buys 9 pairs of laces for his hiking boots.

It costs £19.26 altogether.

How much would 3 pairs of laces cost?

*Ans:.....*

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4. If  $15 \times 20 = 300$ , give the answers to these, without working them out in full:

$37 \times 43 = ?$    

*Ans:*

$37 \times 3 = ?$    

*Ans:*

$522 \div 37 = ?$    

*Ans:*

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5. Write these numbers in order of size starting with the smallest:



**Pre-Algebra:**

1. Look at this pattern of numbers.

Fill in the missing numbers:

3      8      17      30      ..... .

4. A list of numbers is written down using the rule

*multiply the position in the list by 5 and add 2*

For example, the third number in the list will be  $5 \times 3 + 2 = 17$ .

Write down the tenth number in the list.

*Ans:* 1 1 1 1 1 1 1 1 1 0

Write down the twenty-fifth number in the list.

**Shapes and measures:**

1. A rectangular field has an area of  $72 \text{ m}^2$ .  
The length of the field is 9 m.

How wide is it?

*Ans:.....m*

2. Jane went to the supermarket to buy these items:

1 kg potatoes,  $\frac{1}{2}$  kg carrots,  $1\frac{1}{2}$  kg onions, 2 kg steak and 750 g peas.

Work out the total weight of these items

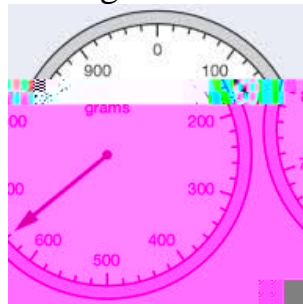
*Ans:.....*

Suppose the supermarket had run out of carrots.

What would the total weight of the shopping be then?

*Cpuí í í í í í í í í í í í í í í 0*

3. Anne-Marie is making cakes, and weighs out some sugar. This is what her scales show:



How much is this in grams? *í 00 í í í í í í í í í 0*

How much is this in kilograms? *í í í í í í í í í í í*

Anne-O tkgu'ltkpf 'Ej tku'npqemu'qxgt 'yj g'dqy n'cpf 'ur kmu'2017'nkqi tco u'qh'lwai ct0J qy "  
much is left, in kilograms?

*í í í í í í í í í í í 0*



4. A water tank has the shape of a cuboid.

It is 3m 20 cm long, 1m 50 cm wide and 2m high.

What is the volume of water in the tank, measured in  $\text{cm}^3$ ?

*Ans: 1 1 1 1 1 1 1 1 1 1 1  $\text{cm}^3$*

What is the volume of water in the tank measured in litres?



**8.** The bus takes 1 hour and 15 minutes to go from Guildford to Oxford.

On the train it would take just 43 minutes.

**Data:**

1. The bar chart shows the number of children at a school who have each type of pet.

What is the least popular pet?

How many children have rabbits?

How many more children have gerbils than have horses?

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2. Jimbob and Jo play a game of pool.

The probability that Jimbob wins is 0.7

Put an arrow on the number line below to show the probability that Jimbob will win the game.



Put an arrow on the number line below to show the probability that Jo will win the game of pool.



3. The pie chart below shows what games consoles the students at Helanbacagun primary school in North Wales received for Christmas.

If 6 lucky students got a ZX81, how many students got an XBOX One?

*Ans:.....*

**Problem solving:**

1. For one newspaper shop it was noted that on a particular Monday, 32 customers were men, three quarters of the customers were women and 25% of the women bought newspapers.

How many women bought newspapers on that Monday?

3. Jimbob is good at darts.

Jimbob has scored 52 points in his first two darts and 70 points in his next two darts.

He needs to score 124 points to win a match.

What score will he have to get with his third dart to win the match?

*Ans:.....points*

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4. Car hire costs £45 for the first 200 km.





