

WOODHOUSE GROVE SCHOOL

ENTRANCE AND SCHOLARSHIP  
EXAMINATION

11 + mathematics

Surname : \_\_\_\_\_

Known name(s): \_\_\_\_\_

1 hour

Read the following instructions carefully before starting the examination

Do not open the test until you are told to do so

Section A: time allowed 25 minutes

Section B: time allowed 35 minutes

Calculators are not allowed

Take care with units

Show your working in the spaces provided

## SECTION A

Time Allowed = 25 minutes

Questions 1- 22 are worth one mark each. If you want to do working, do it in the spaces under the questions.

1) $8 + 7 =$	6) $7925 - 6426 =$
2) $55 + 66 =$	7) $9 \times 6 =$
3) $752 + 849 + 4888 + 21 =$	8) $42 \times 8 =$
4) $35 - 14 =$	9) $902 \times 43 =$
5) $5000 - 59 =$	10) $56 \div 7 =$

11) $2500 \div 50 =$	17) $\frac{5}{8} - \frac{1}{4} =$
12) $3663 \div 9 =$	18) $\frac{3}{4} \times \frac{5}{8} =$
13) $8 - 1 + 13 - 6 =$	19) $2.4 + 1.2 =$
14) $7 + (6 \times 1 \times 3) =$	20) $302 \div 100 =$
15) $(25 \div 5) - 4 =$	21) $4.5 \times 3 =$
16) $\frac{1}{2} + \frac{1}{4} =$	22) $(3.5 + 1.5) \times 4 =$

The remaining questions in this section are worth two marks each. One mark will be given for showing your working, the other mark for a correct answer.

23) An aeroplane takes off at 11.00 am and should take 3 hours 50 minutes to reach its destination. It lands 20 minutes late. At what time does it arrive?	27) Wallpaper is made in rolls of length 11m. How many complete rolls must be bought to cover walls of total length 85m?
24) A boy has three pieces of string. The first piece is 20 cm long. The second piece is 10 cm longer than the first piece. The third piece is 15 cm longer than the second. What is the total length of the three pieces?	28) A pack of six cans costs £5.10. Each can costs 90p when bought on its own. How much does the six pack save the buyer?
25) A school has 760 pupils. 380 are boys. How many are girls?	29) A bus has 52 seats. How many people can 8 buses carry?
26) The winner of an 8000m race finishes 125m ahead of the person in second place. How far had the second person gone at this time?	30) What is the bill for a shirt costing £25.00 and two ties costing £9.99 each?

<p>31) A person earns £27,500 per year. <math>\frac{1}{10}</math> is given to a charity. How much does the charity get?</p>	<p>35) A girl buys 3 packets of sweets each weighing 0.25 kg. If the sweets cost £2.00 per kg, how much change will she get from a £5 note?</p>
<p>32) What fraction of a century has a twenty year old person lived?</p>	<p>36) Milk crates have rows 6 bottles long and there are 4 rows. If I have 77 milk bottles to put in crates, filling each crate before going to the next crate, how many bottles will there be in the last crate?</p>
<p>33) A train has an engine weighing 90 tonnes and 20 wagons each weighing 30 tonnes when empty. Each wagon carries 50 tonnes of stone. What is the weight of the whole train?</p>	<p>Total marks for Section A = 50 marks</p>
<p>34) Find <math>\frac{2}{3}</math> of £480.</p>	

## SECTION B

Time Allowed = 35 minutes

Each correct answer is worth one mark, unless otherwise indicated.

### Question 1

a)	$w + 6 = 13$	Find w	w =
b)	$x - 7 = 8$	Find x	x =
c)	$3y + 2 = 17$	Find y	y =
d)	$z \div 9 = 7$	Find z	z =

In the following questions, fill in the next two empty spaces to complete the number sequence (pattern).

e) 2      4      6      8      \_\_\_\_\_

f) 3      7      11      15      \_\_\_\_\_

g) 2      4      8      16      \_\_\_\_\_

h)  $\frac{1}{2}$        $\frac{2}{3}$        $\frac{3}{4}$        $\frac{4}{5}$       \_\_\_\_\_

In the number square below each side of the square must add up to 60. What are the values of i and j?

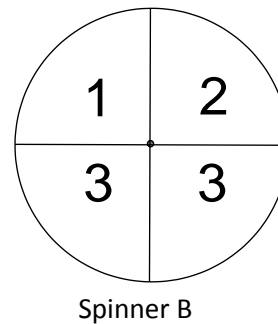
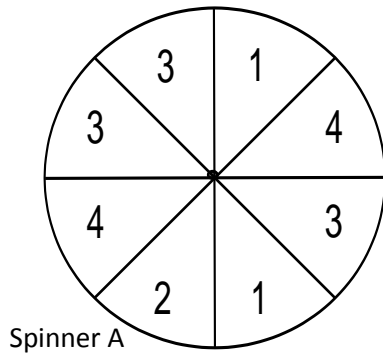
<b>i</b>	<b>10</b>	<b>15</b>
<b>5</b>		<b>j</b>
<b>20</b>	<b>5</b>	<b>35</b>

i = .....

j = .....

## Question 2

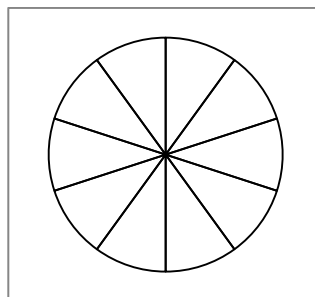
Sarah has two spinners



	Answers
a. What is the probability of getting 3 on spinner A? Write your answer as a <u>fraction</u> .	
b. On which spinner is she more likely to get a 2?	
c. What is the probability of Sarah getting less than 3 on spinner B? Write your answer as a <u>percentage</u> .	

## Question 3

a) Shade in 20% of the circle.



b) From the list of numbers below:

-4 -3 -2 -1 0 1 2 3 4 5

Write down two numbers with a **difference** of 8.

c) Which of the following numbers is the largest?

6.032, 6.302, 6.320, 6.201, 6.230

## Question 4

- a) From the list of fractions, circle the two which have the same value.

$$\frac{3}{5} \quad \frac{4}{12} \quad \frac{5}{7} \quad \frac{1}{3} \quad \frac{3}{6}$$

- b) One of these additions does not give the same answer as the other two.  
Circle the odd one out.

$$\frac{3}{8} + \frac{5}{8} \quad \frac{4}{9} + \frac{5}{9} \quad \frac{5}{10} + \frac{6}{10}$$

- c) The height of a man is approximately

185 mm      185 cm      185 m      1.85 km

Circle the best estimate.

- d) A reasonable weight for a large lorry is

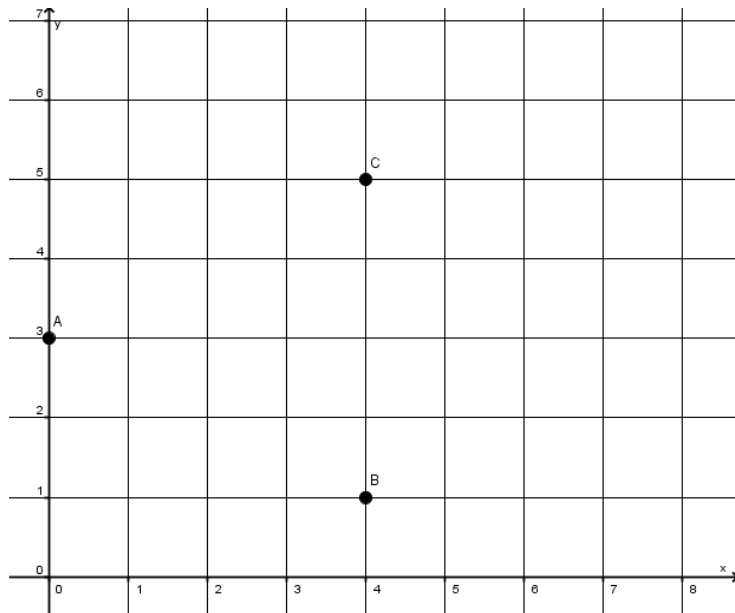
30 grams      300 grams      30 kg      30 tonnes.

Circle the best estimate.



### Question 5

On the squared paper below, three points A, B and C are plotted.

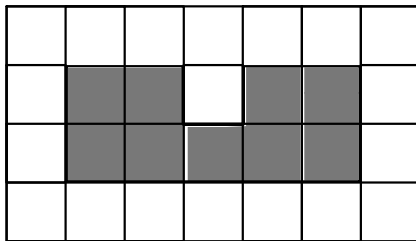


What are the co-ordinates of:-

- a. Point A? (   ,   )
- b. Point B? (   ,   )
- c. Point C? (   ,   )
- d. Point D is a reflection of A in the line BC. Mark point D on the diagram.
- e. What are the co-ordinates of D ? (   ,   )

### Question 6

Here is a centimetre grid square.

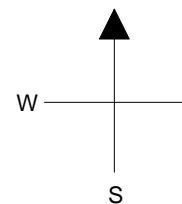


	Answers
a. What is the area of the shaded shape?	
b. What is the perimeter of the shaded shape?	
c. The perimeter of a square is 3 m. What is the length of one side <b>in cm</b> ?	
d. A rectangle has an area of 54 m <sup>2</sup> . The length of one side is 9m. What is the length of the other side?	

### Question 7

- a. Starting from point O, a woman walks 5 km East to point A, then 5 km North to point B, then 5 km West to point C.

Using the directions given, draw a diagram in the space below to show the path she takes.(2 marks)



●  
Point O

- b. How far is C from O, in a straight line?

Answer: .....

### Question 8

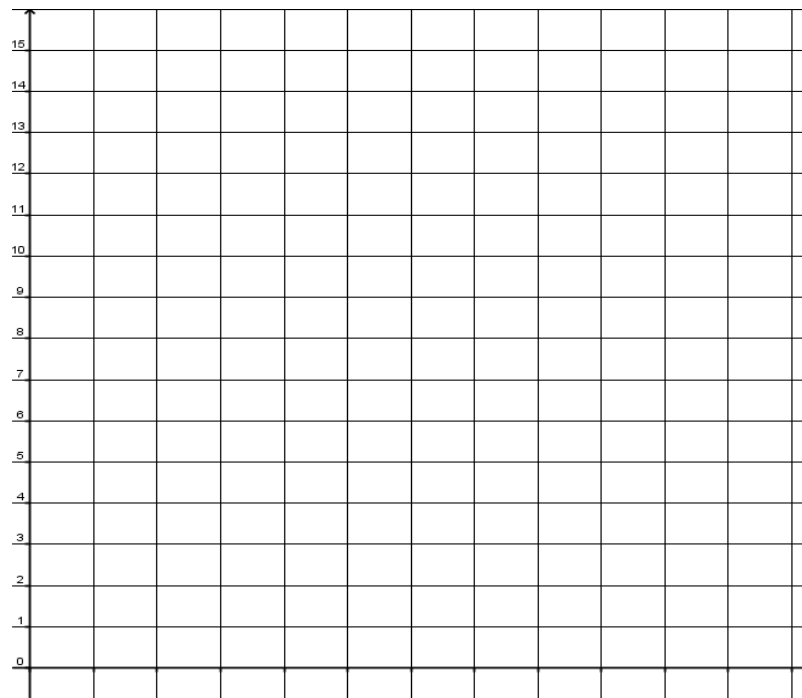
The numbers of Gold medals won by athletes from several countries are shown in the table.

Country	Tally of number of Gold medals	Number
Australia		
China		
France		
Germany		
United Kingdom		
USA		

|||| = 5 Gold medals

	Answers
a) How many Gold medals did China win?	
b) What was the total number of Gold medals won by all six countries?	
c) Which country won the second greatest number of Gold medals?	

d) Complete a bar chart for this data. (3 marks)



### Question 9

These are the opening times at a leisure centre.

Day of week	Opening Times	
	am	pm
Monday	Centre Closed	
Tuesday	10:00	7:00
Wednesday	10:00	9:00
Thursday	10:00	9:00
Friday	8:00	9:00
Saturday	8:00	6:00
Sunday	7:00	4:00

	Answers
a) How many hours is the centre open on Sunday?	
b) On which day is the centre open longest?	
c) James arrives at the centre at <b>8: 30 am</b> on <b>Thursday</b> . How many <b>minutes</b> must he wait for the centre to open?	

d) Gemma works at the centre.

She is paid £4.00 an hour on weekdays, and double that at the weekend.

How much will Gemma earn if she works when the centre is open on Friday, Saturday and Sunday?

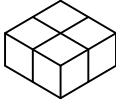
You may use the space below for your working (2 marks).

Answer: .....

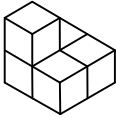
### Question 10



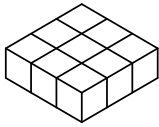
A is one cube: it has 6 faces



B is four cubes as shown



C is made by putting A on top of B as shown.



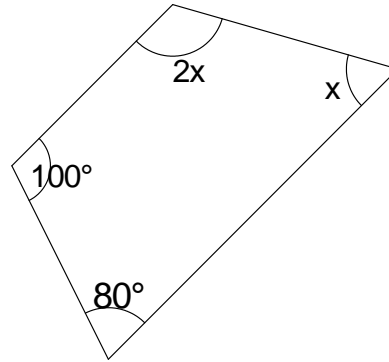
D is nine cubes as shown.

E is made by putting C on top of D.

	Answers
a) How many cubes are there in E?	
b) How many faces of cubes does C have on its outside?	
c) How many faces of cubes does E have on its outside?	
d) Keep going! How many cubes would G have?	

### Question 11

The angles in a quadrilateral add up to  $360^\circ$



Find the value of  $x$

Answer  $x =$

### Question 12

Look at the expressions below:

$$n + n + n + 4$$

$$3n + n - 2$$

$$4n + 3$$

$$2n - 4$$

$$4n - 2$$

$$n^2 + 7$$

	Answers
a. Two of the expressions are always equal. Write them both down here.	
b. Two of the expressions are only equal when $n=2$ . Write them both down here.	
c. Which of the expressions gives the greatest value when $n=3$ ? Write it down here.	

**Total marks for Section B = 50 mark**