

SAMPLE PAPER

ENTRANCE & SCHOLARSHIP EXAMINATION

For 11+ candidates

MATHEMATICS

Time allowed: 1 hour

Calculators **may not** be used. Answer as many questions as you can. Show your working as there may be marks given for working out. If you cannot do a question, leave it and go on to the next question.

Mathematical Note for Candidates from Overseas

Decimal Separators

The symbol used to separate the integer part of a decimal from its fractional part is called the decimal point. In Britain, the decimal point is donated by a period (eg 31.241). However, in some countries the notation is different. Many European countries use a comma in place of the decimal point (eg 31,241).

Candidates should be aware of the British system for decimal points and should note that questions will be set in this style. However, the candidate's own answer may be written in the style that is familiar to them.

1 (a)
$$\begin{array}{r} 347 \\ +238 \\ \hline \end{array}$$

(b)
$$\begin{array}{r} 504 \\ -162 \\ \hline \end{array}$$

(c)
$$\begin{array}{r} 619 \\ \times 43 \\ \hline \end{array}$$

(d) $8\overline{)34752}$

2 (a) $5.372 + 23.45$

(b) $40.37 - 8.4$

(c) 82.6×17

(d) $15.36 \div 6$

3 Joel bought 128 pencils for his class. The pencils came in boxes of 16. How many boxes did he buy?

4 Jasmine collects *pico-cards* and has 236 in her collection. However, 57 are duplicates; so she decides to sell the duplicates and buys 34 new cards. How many does she have in her collection now?

THE NEXT TEN QUESTIONS ARE MULTIPLE CHOICE, PUT A CIRCLE AROUND THE CORRECT ANSWER.

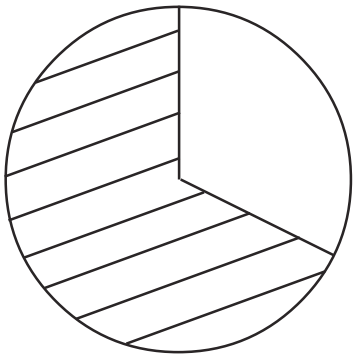
5 14532 can be written as 10 000 + 4000 + 500 + 30 + 2
What is the value of the 6 in the number 3796423?
A 600 B 6000 C 60 000 D 60 E 600 000

6 How do you write 32 047 in words?
A Thirty thousand two hundred and forty seven
B Thirty two thousand four hundred and seven
C Thirty two thousand and forty seven
D Thirty thousand and forty seven
E Thirty thousand four hundred and seven

7 Which of these numbers is the largest?
A 7.08 B 0.708 C 8.07 D 0.870 E 8.7

8 Which of the following numbers is both an even number and a cube number?
(1000 is a cube number because it is 10 x 10 x 10)
A 4 B 16 C 64 D 125 E 180

9 How many degrees does the shaded part of this circle represent?

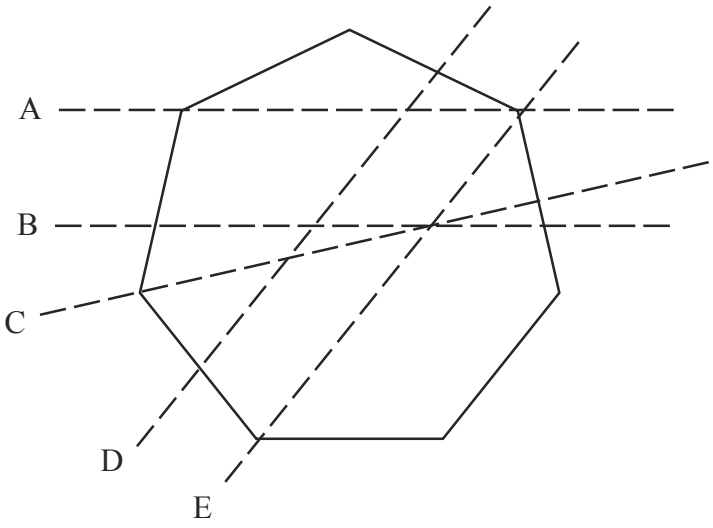


A 90° B 120° C 180° D 240° E 270°

10 Which of the following is most likely to weigh about 30kg?

A an orange B an elephant C a car D a young boy E a book

11 Which line is a line of symmetry?



12 0.4 is the same as

A $\frac{2}{5}$ B $\frac{1}{2}$ C $\frac{1}{4}$ D $\frac{4}{5}$ E $\frac{1}{3}$

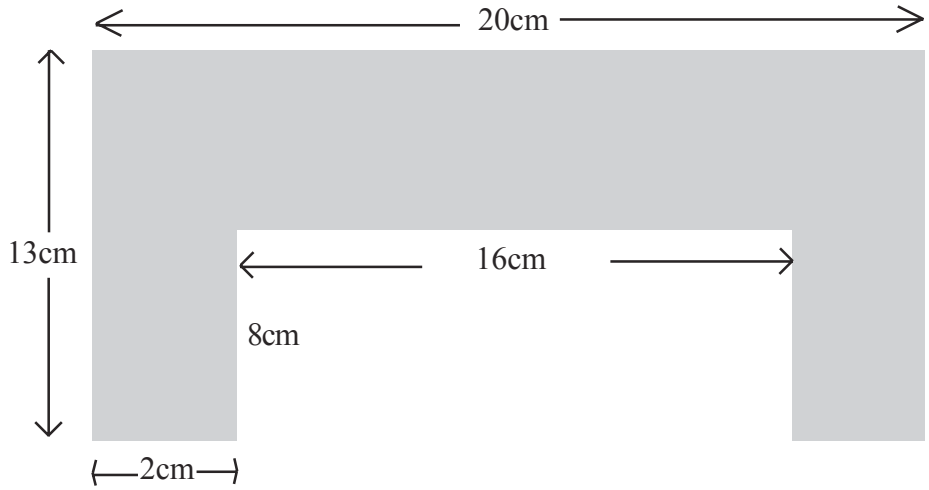
13 It took Jimmy 1 hour and 40 minutes to do his homework. His sister, Jemima, took three times as long. How long did she take?

A 5 hours B 4 hours 20 minutes C 3 hours 40 minutes
D 4 hours 20 minutes E 5 hours 30 minutes

14 5 - 2 + 4 x 3 =

A -13 B 25 C -9 D 27 E 15

15 What is the area of this shape?

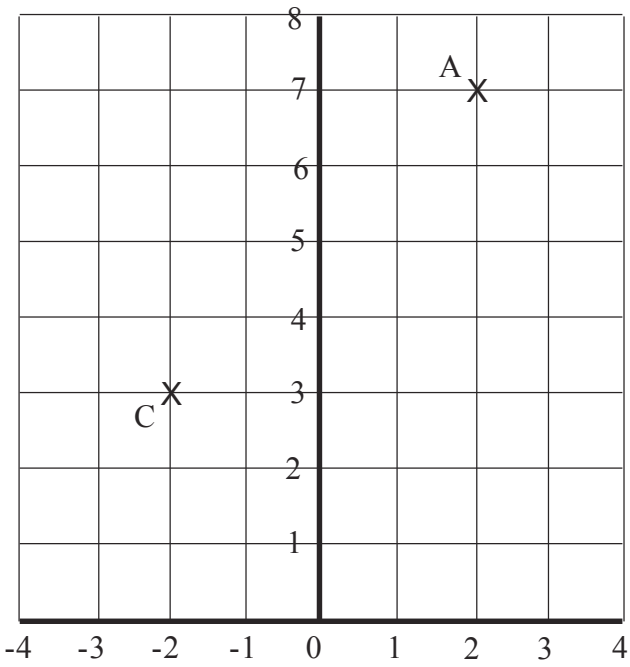


Ans .....cm^2

16 Complete the following table for the times on a 12 hour clock and a 24 hour clock:

12 Hour Clock	24 Hour Clock
5:20am	
8:45pm	
5 minutes before 10pm	
	02:35
	17:50
	00:09

17



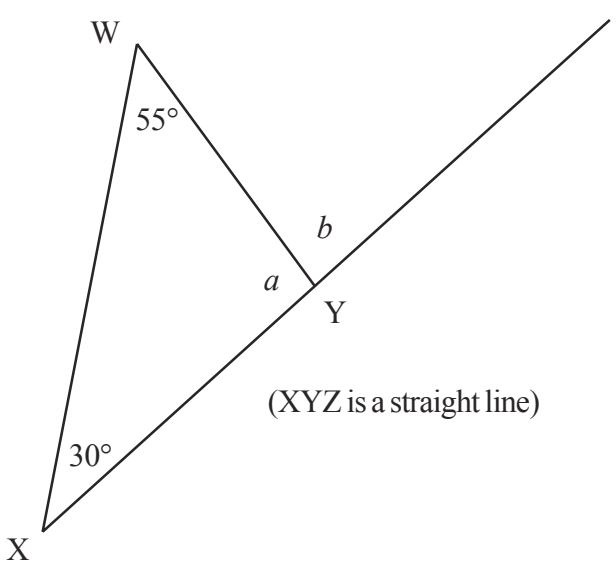
Point A has coordinates (2, 7)

What are the coordinates of point C? (,)

Plot point B (2, 5)

Plot another point, D, so that when you join ABCD you have a shape that has AC as a line of symmetry. What type of shape is this?

18 Find the lettered angles



Angle *a* =

Angle *b* =

(XYZ is a straight line)

19 "I am a 2 dimensional shape with four sides that are all the same length, but my corners are not right angles. What am I?"

Draw the shape and give it its proper name.

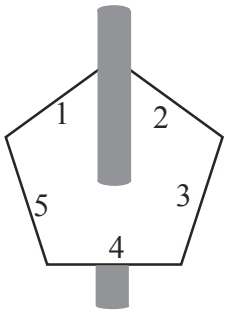
20 Last night it was -6°C outside. Tonight the weatherman says it will be 4°C colder.

(a) What will be tonight's temperature? Ans .....

By midday today it was 11°C warmer than last night's temperature.

(b) What was the midday temperature? Ans .....

21 I spin a 5 sided spinner, numbered 1 to 5 on each section.
The score is the section resting on the table



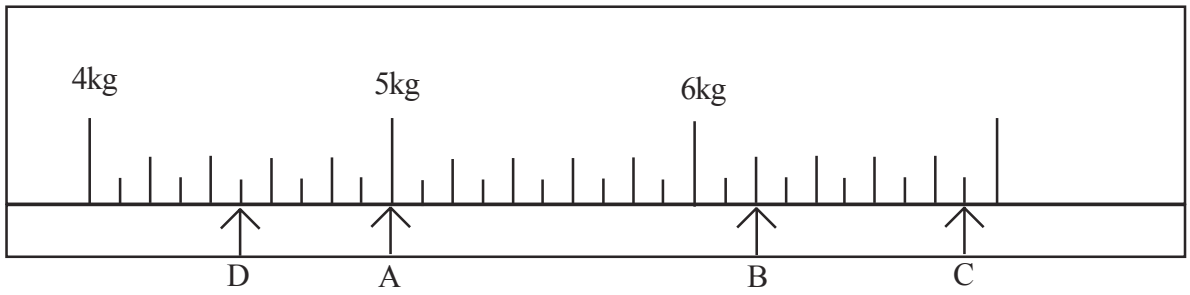
(a) What is the probability of scoring a 5? Ans .....

(b) What is the probability of scoring a multiple of 2? Ans .....

(c) If I spin the spinner twice, what is the probability of getting the same number both times?

Ans .....

22



Above is part of a weighing scale, write below the weights represented by points A, B, C and D

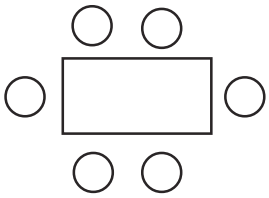
A .....

B .....

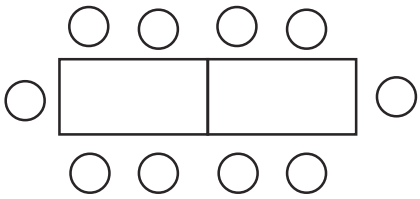
C .....

D .....

23 6 people can sit around one table



10 people can sit around 2 tables



How many people can sit around 3 tables - draw a picture to show how many.

Ans .....

Fill in the boxes to find a formula:

Seats = ☐ x tables + ☐

How many can sit around 15 tables? Ans .....

24 I went to a shop (Shop A) and bought 10 boxes of matches, the number of matches in each box were:

46, 47, 43, 46, 45, 49, 45, 43, 45, 41.

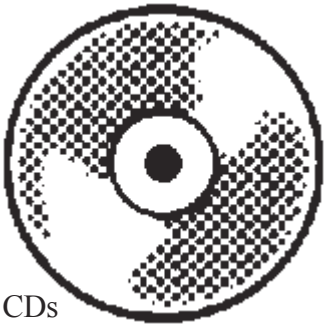
a) What is the mean (average) number of matches in each box?

b) What is the range of matches in each box?

In another shop (Shop B) I found that their matches averaged 47 matches per box with a range of 5. Which is the better shop to buy matches from, and why?

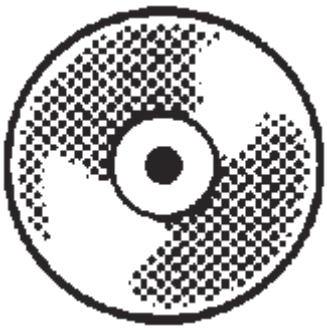
25

Shop A



CDs
£14.99

Shop B



CDs £15

In the sale Shop A has a sign "£4 off all items", in Shop B there is a sign "Everything reduced by 30%".

In which shop are CDs cheaper and by how much?

26 My calculator is broken, only the following keys work:

2	7	x	-	=

Using only these keys show how you can make sums that come to each of the numbers from 1 to 10