HEREFORD CATHEDRAL SCHOOL

13+ Entrance Paper	**Sample Material**
Time Allowed	**One Hour**

Name:.....

School:.....

Equipment required

Pencil

Ruler

Protractor

Calculators are not allowed

Advice to candidates

Show all your working; do not rub it out.

Do not spend too long on any one question. You may return to complete a question later it you have time.

1) Add together 8754 and 9653

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2) A piece of wood 251cm long is cut into two pieces of equal length. How long is each piece? Give your answer in m.

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3) Round 41.748

a) to the nearest whole.

b) to one decimal place.

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4) Calculate the following leaving your answers in their simplest form.

a) $\frac{3}{14} + \frac{5}{14}$

b) $\frac{13}{20} - \frac{5}{15}$

c) $\frac{3}{15} \times \frac{5}{14}$

d) $\frac{3}{8} \div 2\frac{1}{2}$

5) Estimate $\frac{34.43 \times 494.3}{2.143}$

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6) Write down the value of

a) 10^4

b) 2^{-5}

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7) Increase £70 by 5%

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8) 7 pupils out of a class 20 are left-handed. What percentage are right-handed?

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9) What is 15% of £22?

10) x = 2, y = -3 and z = -5 Find the value of

a) 5x

b) yz

c) x – z

d) z^2

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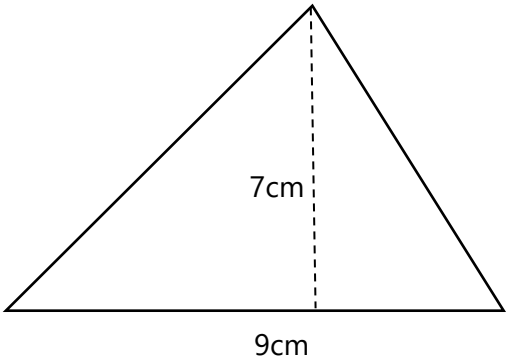
11) Calculate the area of the triangle



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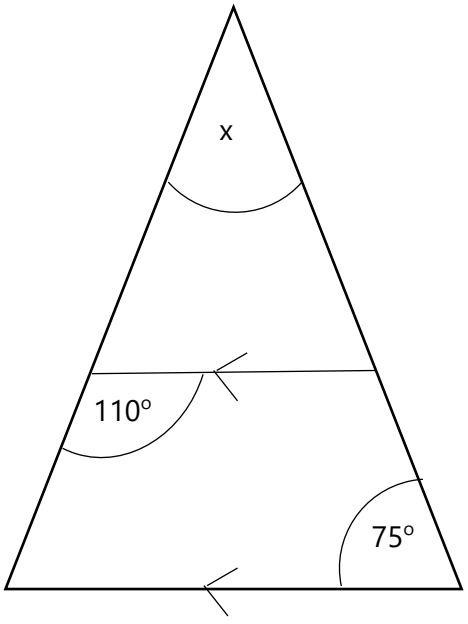
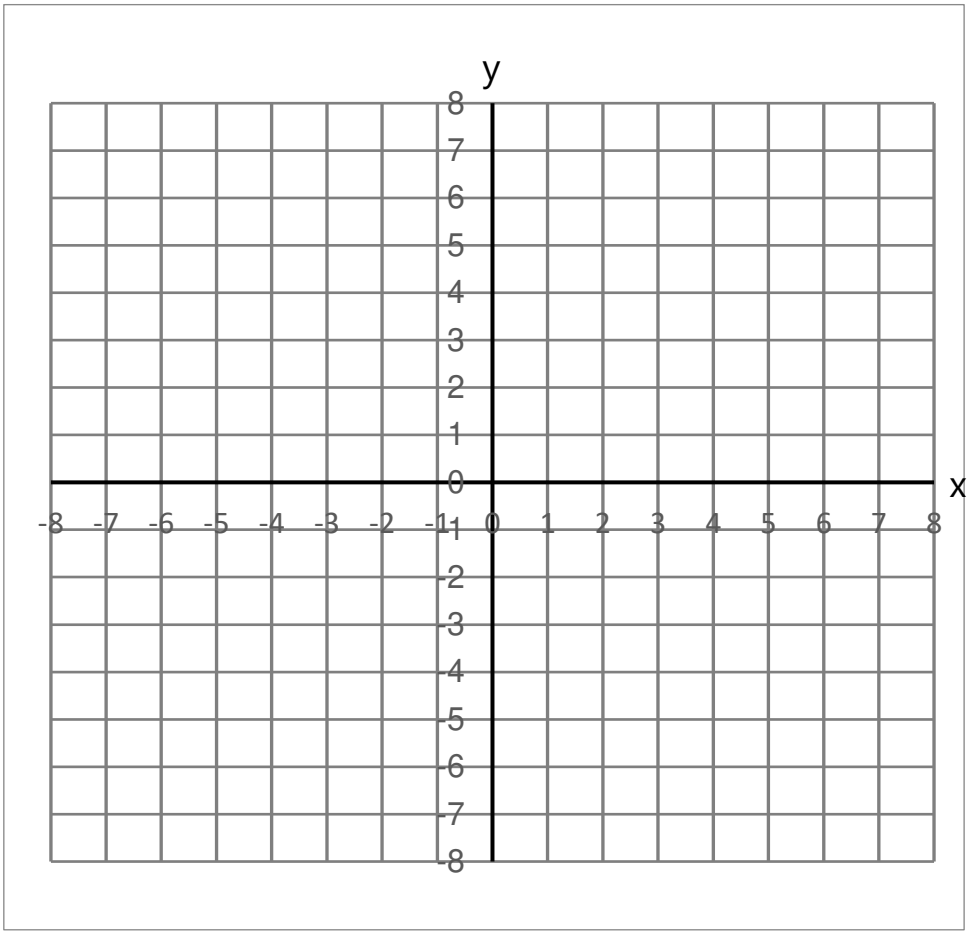
12) Calculate x



13)



a) Plot the points (-3,-3), (2,-3), (-1,2) and (4,2), and join the points to form a quadrilateral.

b) What is the name of this quadrilateral?

c) What it the area of the quadrilateral in units^2?Draw the line x=-6

e) Complete the table and draw the graph of the line y=2x +1 on the axes.

x	-3	-2	-1	0	1	2	3
2x+1							7

14) The marks of a class of 10 pupils in a test out of 20 was as follows:

12, 12, 13, 13, 13, 17, 20, 20, 20, 20

i) Calculate the mean of the marks.

ii) What is the mode of the marks?

iii) Calculate the median mark.

b) The marks across a year groups of 100 pupils were as follows:

Calculate the mean mark.

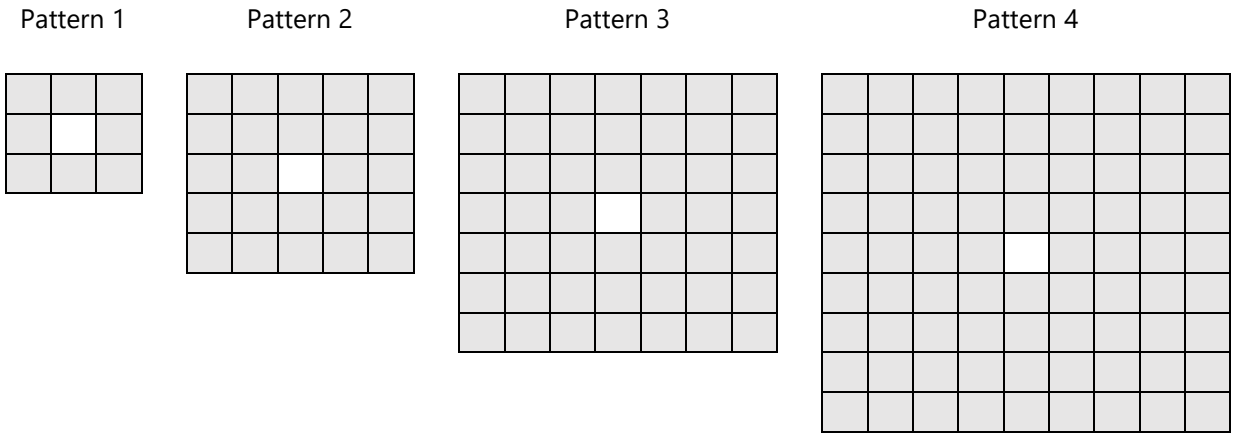
Mark	Frequency	
12	5	
13	5	
14	10	
15	10	
16	10	
17	10	
18	10	
19	10	
20	30	

15) Solve the equations

a) $2x + 3 = 21$

b) $4x + 1 = 23$

16)



a) Complete the table

Pattern No.	1	2	3	4
No. of small shaded squares	8			

b) How many small shaded squares are there in Pattern 5?

c) How many small shaded squares swill there be in pattern 10?

d) A pattern has 10200 small shaded squares. What is the pattern number?