LeicesterHigh
SCHOOL
FOR GIRLS

Specimen Entrance Examination

Mathematics Entry to Year 6

Time: 1 hour

You will need a ruler, but you must not use a calculator.

Answer as many questions as you can. Write your answers in the spaces provided and show all your workings clearly.

Name:_____ **Age:** _____

Present School: _____

Mark

/100

1. Calculate

   a. 38 + 624 + 170

   Answer _____ (2)

   b. 361 – 89

   Answer _____ (2)

   c. £17.23 + £6.58 + 75p

   Answer _____ (2)

   d. 279 x 6

   Answer _____ (2)

   e. 85 ÷ 5

   Answer _____ (2)

2. A box of 92 Smarties contains only red, green and purple Smarties. If there are 37 red Smarties and 29 green Smarties how many purple Smarties does it contain?

   Answer _____ (3)

3. Leyla buys a bracelet costing £6.49. If she pays with a £10 note what change should she receive?

   Answer _____ (2)

4. Jenny is given 3 large jigsaw puzzles for Christmas which get muddled together. The first contains 496 pieces, the second 812 pieces and the third 984 pieces.
By rounding each of these numbers to the nearest 100, **write down** a simple sum you can do to estimate the total number of jigsaw pieces there are all together.
Sum:

Answer: *My estimate of the total number of jigsaw pieces is*

_____ (3)

5. a. Arrange all these numbers in order of size, writing the smallest first.

540, 452, 524, 425, 504

Answer: smallest _____ _____ _____ _____ _____ largest (3)

b. Using any of the digits 4, 5 and 2 only once in each answer, write down

(i) an even 2 digit number Answer _____ _____ (2)

(ii) the largest 3 digit number possible Answer ____ ____ ____ (2)

(iii) the smallest 2 digit number possible Answer ____ ____ (2)

6. a. Calculate

(i) 15 x 6

Answer _____ (1)

(ii) 15 x 60

Answer _____ (1)

(iii) 15 x 1000

Answer _____ (1)

b. What is 350 ÷ 10

Answer _____ (1)

c. A length of ribbon is 240 cm long. It is cut into 6 pieces of equal length. What is the length of each piece?

Answer _____ (2)

7. I think of a number, multiply it by three and add 7. The answer is 25. What is the number I am thinking of?

Answer _____ (3)

8. a. Write in figures the number '*sixteen thousand, seven hundred and one'*.

Answer _____ (2)

b. Write in words the number 8014.

Answer _____ (2)

c. Write down the number which is 100 more than 3724.

Answer_____ (2)

d. Write down the number which is 1 less than 1000.

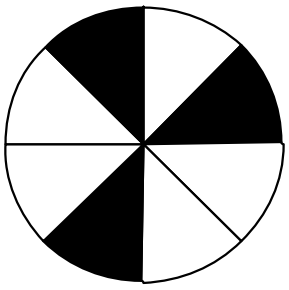
Answer_____ (2)

9. In the next two questions write a number in the box which will make the statement true.

a. 4 x ☐ = 36 (1)

b. ☐ - 13 = 32 (1)

10. a. Look at this diagram



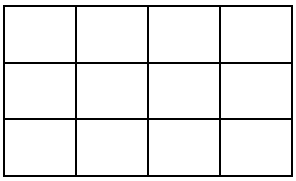
(i) What fraction is shaded?

Answer _____ (1)

(ii) What fraction is unshaded?

Answer_____ (1)

b. Shade $\frac{2}{3}$ of this diagram



(1)

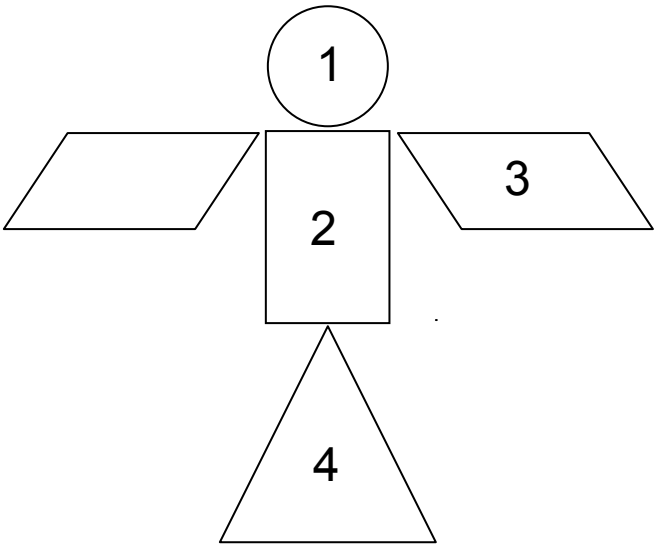
c. In an orchestra of 24 children, $\frac{3}{4}$ of them are girls. How many are boys?

Answer _____ (3)

d. 50% of the trees in a wood are fir trees. If there are 450 trees in the wood, how many fir trees are there?

Answer _____ (2)

11a. Write down the names of the four shapes in this diagram.



Shape 1 is a_____

Shape 2 is a_____

Shape 3 is a_____

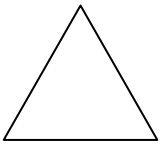
This diagram has a line of symmetry and so shape 4 is a special type of triangle.
Complete this statement: *shape 4 is an* _____ *triangle*. (4)

b. Draw all the lines of symmetry on the two diagrams below.

(i)

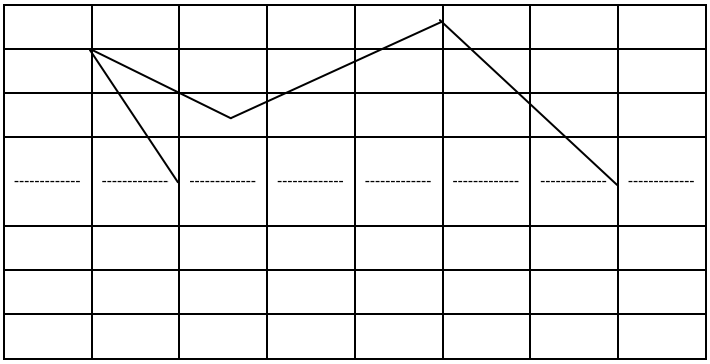


(ii)

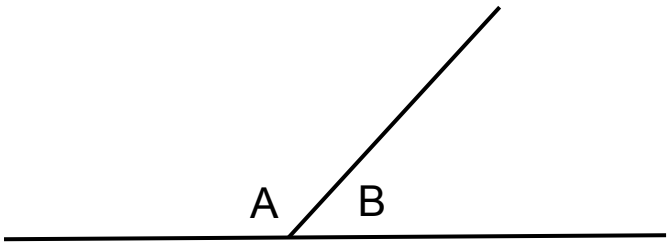


(3)

c. Complete the shaded shape on the diagram below to make the dotted line a line of symmetry.



12 a. This diagram shows two angles A and B. One is acute and one is obtuse. Complete the statement below with the letter A or B.



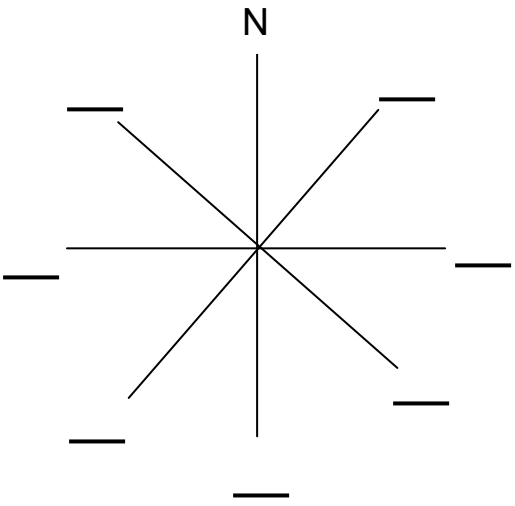
The acute angle is _____

The obtuse angle is _____ (1)

b. How many degrees are there in a right angle?

Answer _____ (1)

13. Using the letters N for North, S for South, E for East and W for West, name the eight points on this compass. North (N) has been marked for you.



(3)

14. IMPOSSIBLE - UNLIKELY - EVENS - LIKELY - CERTAIN
Which of the above words best describes the following probabilities:

i. If I buy a national Lottery ticket today I will win the jackpot prize with it.

Answer _____(1)

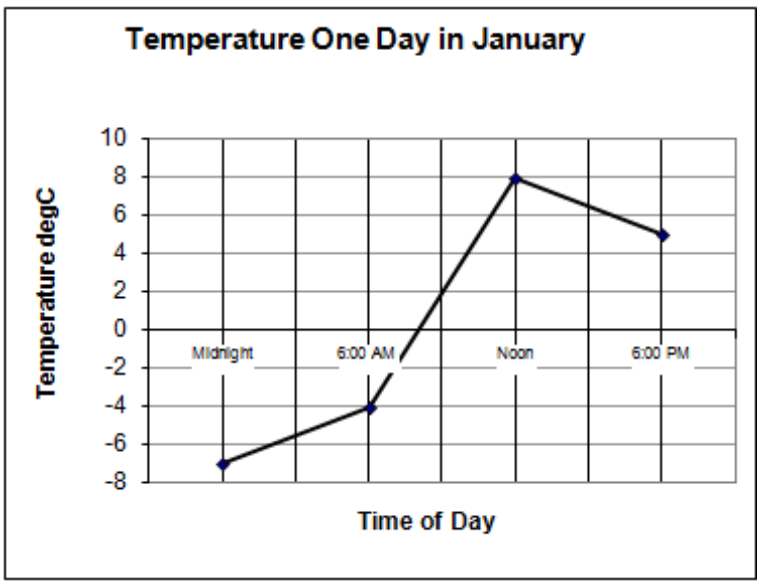
ii. I will know the correct answer to the sum 2+ 2 =

Answer _____ (1)

iii. The next baby born at the Leicester Royal Infirmary is a boy.

Answer _____ (1)

15. This temperature chart shows the temperature taken at 6 hour intervals one day in January.



a. What is the temperature at midnight?

Answer _____°C (1)

b. What was the rise in temperature Between 6am and noon?

Answer _____°C (3)

c. Show the time 1800 hours in this clock face.



(2)

16. Part of the TV programme schedule for Saturday morning is shown below.

8.25	Rugrats
8.50	Smart Guy
9.15	Live and Kicking
12.10	BBC News; Weather

a. For how many minutes does the programme Smart Guy last?

Answer _____ (1)

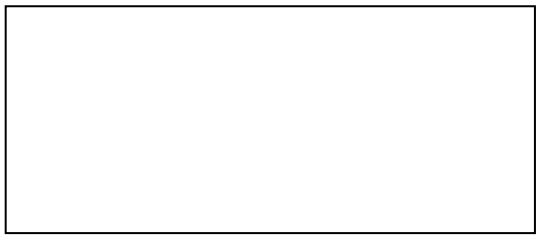
b. Carla wants to record *Live and Kicking*. She thinks that the 180 minute tape she has will be long enough. How many spare minutes will be left on the tape after recording *Live and Kicking*.

c.

Answer _____ (2)

17 a. Measure the dimensions of this rectangle giving your answers to the nearest whole centimetre.

i. length _____cm
ii. breadth _____cm



(2)

b. Using these answers, calculate the perimeter of the rectangle above.

Answer _____ cm (2)

c. Calculate the area of the rectangle above. Write down the units of your answer.

Answer_____ (3)

18. Write down the next two numbers in the following sequences:

a. 7, 14, 21, 28, _____, _____. (1)

b. 3, 6, 12, 24, _____, _____. (2)

c. 50, 41, 33, 26, _____, _____. (2)

19. Look carefully at this number pattern:

Line 1: 1 x 1 + 3 = 4

Line 2: 2 x 2 + 5 = 9

Line 3: 3 x 3 + 7 = 16

a. Write down the next two lines of the pattern.

Line 4: ____ x____ + ____ = _____

Line 5: ____ x ____ + ____ = _____ (4)

b. The numbers in the final column are special numbers. What is the name of these special numbers?

Answer _____ (1)

20. Hannah has 4 pieces of string of lengths 1m, 2m, 3m and 5m.

She can join them together to make other lengths
e.g. to make 4m she can use 1m + 3m.

She can use two or more pieces each time.

a. Which pieces should she use to make the following lengths?

i. 7m _____ (1)

ii. 9m _____ (1)

What is the longest length she can make?

Answer _____m (1)