Warwick School

11+ Entrance Examination

Mathematics

Please write your full name here:

_____

Before you start read these instructions:

➢ This test lasts 45 minutes.

➢ We would like to see how you worked out your answers, so show your working. We may be able to give you marks even if the answer is wrong.

➢ Do **not** use a calculator.

➢ The starred questions are very difficult, if you get stuck, just go onto the next question. You may have time at the end to try the question again.

➢ HAVE YOU WRITTEN YOUR FULL NAME IN THE BOX?

Remember to show your working

1.   Work out:

   a) $3498 + 147$

         Answer: _____ [1]

   b) $5971 - 348$

         Answer: _____ [1]

   c) 154×6

         Answer: _____ [1]

   d) $4113 \div 9$

         Answer: _____ [1]

2.   Calculate

   a) $\dfrac{2}{3} - \dfrac{2}{7}$

         Answer: _____ [3]

   b) $\dfrac{7}{9} \times \dfrac{2}{5}$

         Answer: _____ [3]

Remember to show your working

3. Find the next two numbers in these sequences:

a) 6, 11, 16, 21, ... , ...

b) 52, 45, 38, 31, ... , ...

c) 2, 10, 17, 26, ... , ...   [3]

4. 562 Worcester Warriors fans meet at Sixways stadium to travel to Northampton to watch a rugby match. There are 11 coaches to transport them each of which can take 50 fans.

a) How many fans can travel in the coaches?

Answer: _____ [2]

b) The fans that cannot fit onto the coaches are transported by taxi. Each taxi can transport 4 fans. How many taxis are needed?

Answer: _____ [2]

5. Work out $3+5\times12$

Answer: _____ [2]

6. Freddie spends $\frac{2}{3}$ of his pocket money each week. If he has £9 pocket money, how much money does he spend?

Answer: £_____ [2]

7. How many centimetres are there in 14.3 metres?

Answer: _____ cm [1]

8. Write 50 as a product of three prime numbers.

Answer: _____ [3]

9. There are two pine trees standing in the middle of a field. It is a sunny day. The larger tree, which is 45 metres high, has a shadow that is 15 metres long. The smaller tree has shadow that is only 8 metres long. How high is the smaller tree?

Answer: _____m [3]

10. A chicken in a butcher's shop weighs 1260 grams. What is this in kilograms?

Answer: _____kg [1]

11. Last night the temperature was $-6°C$ but today it is $4°C$. By how much has the temperature gone up?

Answer: _____ $°C$ [1]

12. Convert these to decimals:
  a) 13%

Answer: _____ [1]

  b) 9%

Answer: _____ [1]

  c) $\frac{2}{50}$

Answer: _____ [2]

13. An electrician charges £45 to visit a house, plus £35 for every hour he spends there. If he stays for *h* hours, write down a formula for the total cost, £*C*, of his visit.

Answer: _____ [3]

14. A train leaves Manchester Piccadilly station at 07:48 and arrives at London Euston at 11:09. How long did the journey take?

Answer: _____hours _____minutes [2]

15. A particular fruit drink is made by mixing apple juice and orange juice in the ratio 3:4. How much apple juice is needed to make 28 litres of the fruit drink?

Answer: _____ [3]

16. I think of a number, add 3 and then divide by 8 and the result is 3. What was the number I thought of?
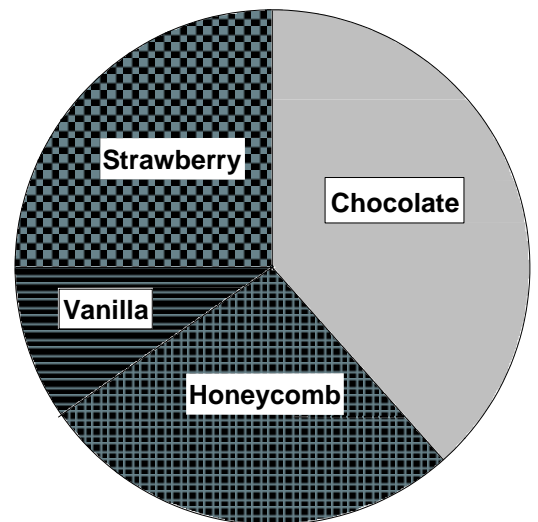
Answer: _____ [2]

17. The pie chart shows the favourite ice cream flavours of 20 boys at Warwick School.
    a) Which is the least popular flavour?

    Answer: _____ [1]

    b) How many boys liked Strawberry ice cream?

    Answer: _____ [2]

18. Work out 346×214

Answer: _____ [2]

19. Work out $62557 \div 11$

Answer: _____ [2]

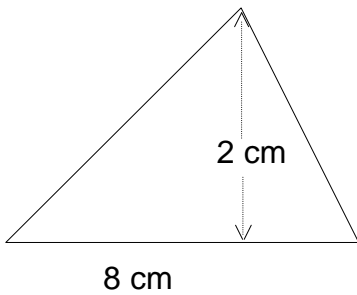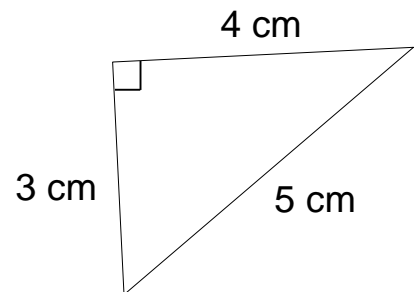20. a) Plot the points (1,3), (4,6), (8,6) and (5,3) and join them up to make a shape.
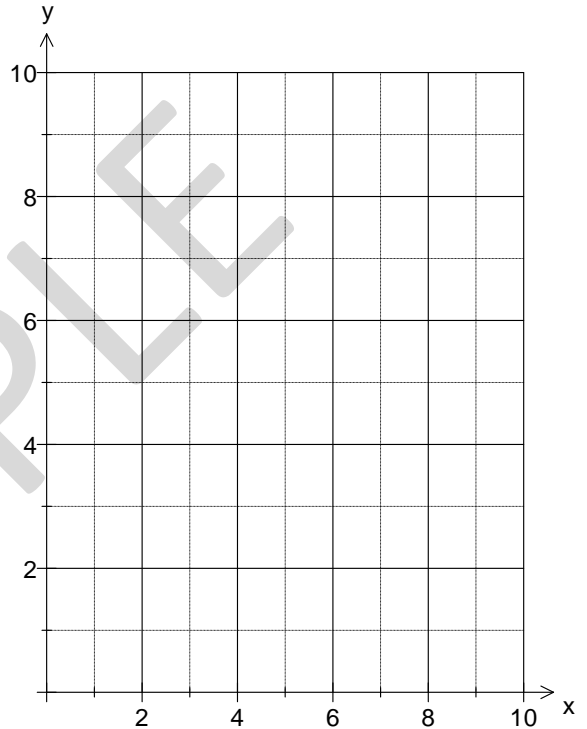
[2]

b) What name is given to this shape?

Answer: _____ [1]

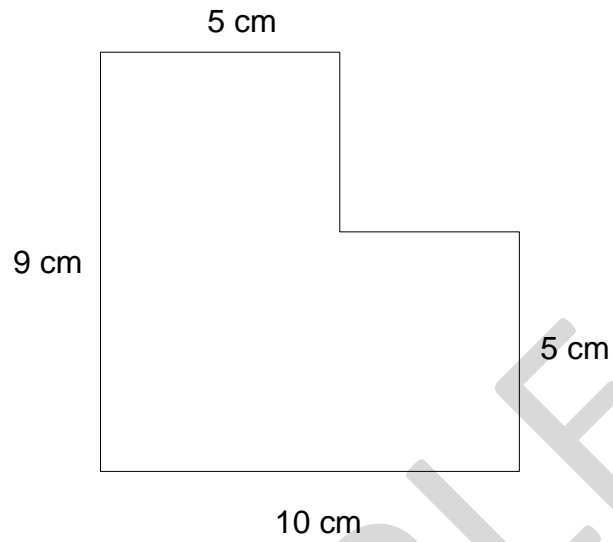21. Work out the area of these triangles. They are not drawn to scale.

2 cm

8 cm

4 cm

3 cm

5 cm

Answer: _____cm² [2]

Answer: _____cm² [2]

22. Find the perimeter and area of this shape. It is not drawn to scale.

5 cm

9 cm

5 cm

10 cm

Perimeter = _____cm [2]

Area = _____cm² [2]

23.

A

B

C

D

E
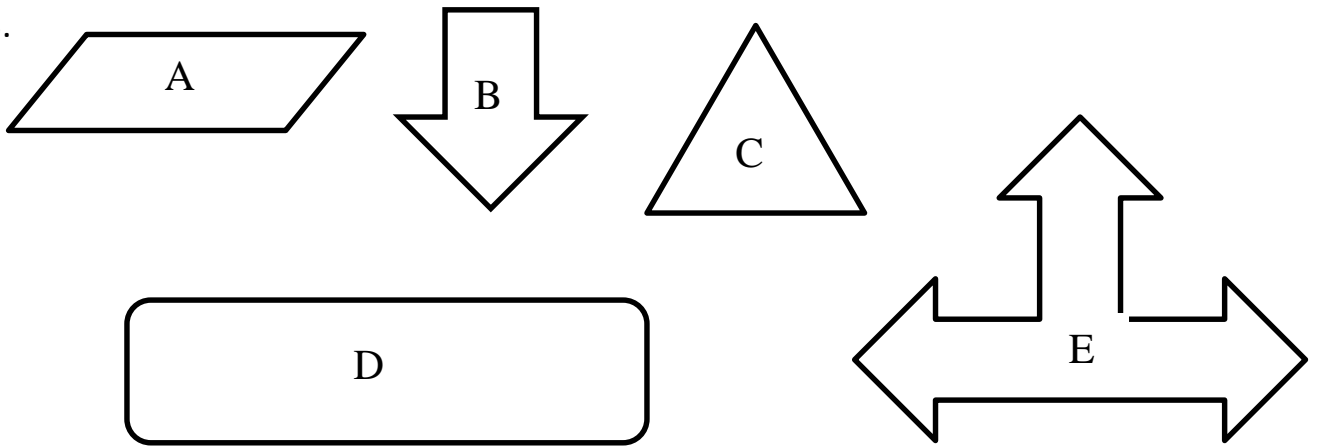
The diagram shows five shapes labelled A to E.

a) Which shape has one line of symmetry and no rotational symmetry?

Answer: _____ [1]

b) Which shape has two lines of symmetry and rotational symmetry order 2?

Answer: _____ [1]

c) Which shape has no line symmetry and rotational symmetry order 2?

Answer: _____ [1]

d) Which shape has rotational symmetry of order 3?

Answer: _____ [1]

24. a) List the factors of 28.

Answer: _____ [3]
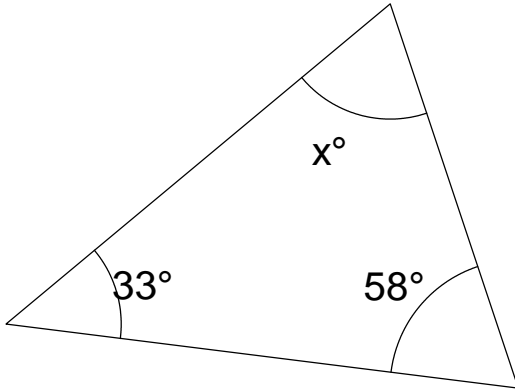
b) List the multiples of 4 that are less than 22.

Answer: _____ [2]

25. Calculate 40% of £360.

Answer: _____ [2]

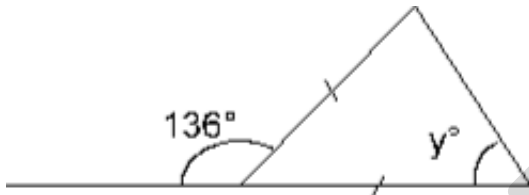Remember to show your working

26.   Find the value of *x*. The triangle is not drawn to scale.

Answer: *x* = _____   [2]

27.   Find the value of *y*. The shape is not drawn to scale.

Answer: *y* = _____   [3]

28.   Here are the number of goals scored in seven matches by a football team:

6,3,0,0,4,0,1

a) What is the mean (average) number of goals scored per game?

Answer: _____   [2]
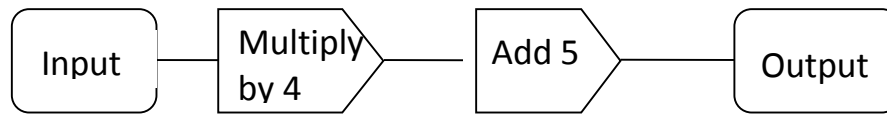
b) What is the mode of the goals scored per game?

Answer: _____   [1]

c) What is the median of the goals scored per game?

Answer: _____   [2]

Remember to show your working

29.

| Input | Multiply by 4 | Add 5 | Output |

a)   If the input is 3, what is the output?

Answer: _____ [1]

b)   If the output is 33, what is the input?

Answer: _____ [2]

c)   If the input is a, what is the output?

Answer: _____ [2]

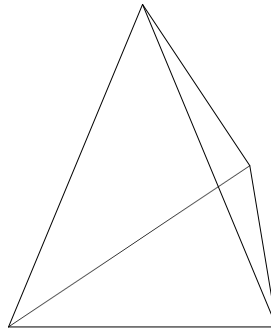Remember to show your working

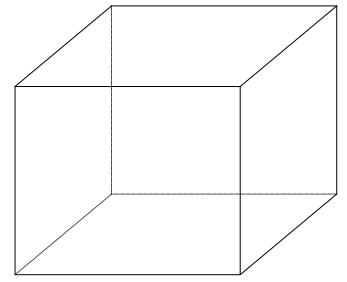30. Here are drawings of four three-dimensional shapes.

a) Which shape has the most edges?

_____ [1]

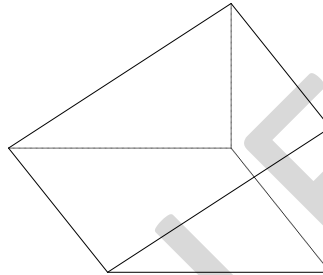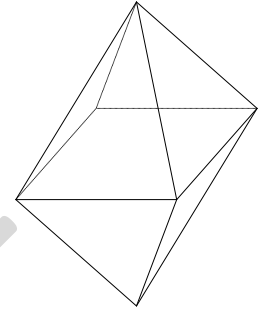b) Which shape has the most corners?

_____ [1]

c) Which shape has the most faces?

_____ [1]

Tetrahedron

Cuboid

Triangular Prism

Octahedron

*d) Write down a rule that connects the number of faces, corners and edges for all the shapes.

_____ [2]

*31. a) $\dfrac{100}{99} \times \dfrac{99}{98} \times \dfrac{98}{97} \times \dfrac{97}{96} \times \dfrac{96}{95} =$

Answer: _____ [3]

Remember to show your working

Each letter has a numerical value and the totals of some of the columns and rows are shown. Calculate the value of each letter?

a	b	b	18
4a	3b	7	64
a	2a	2b	42
c	36	d	

a = _____ [1]

b = _____ [1]

c = _____ [1]

d = _____ [1]

END OF EXAMINATION
Now go back, check your answers and
try any questions you may have left out.