MERCHANT TAYLORS' SCHOOL

MATHEMATICS PRACTICE PAPER

Time allowed: 1 Hour

Calculators are **NOT** to be used.

1.   Calculate the values of each of the following:-

a)

```
        4  7  2
  +  8  3  5  9
           8  5
  [                    ]
```

b)

```
           4  6
  +        8  5  9
        3  7  9  5
  [                    ]
```

c)

```
        6  3  1
  -     3  8  6
  [                    ]
```

d)

```
        6  5  7
  x           9
  [                    ]
```

(4 marks)

2.   Write in figures the number eighty thousand four hundred and seven.
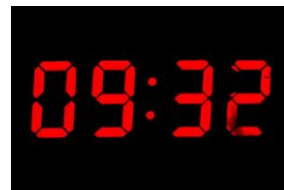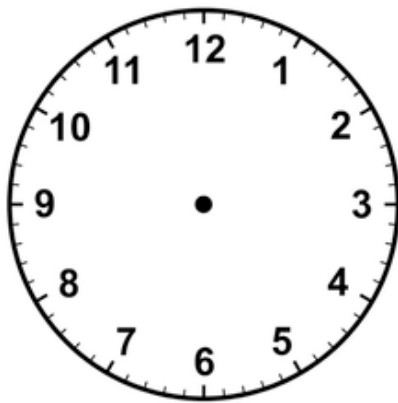
Answer: _____

(1 mark)

3a) If it is evening time, what is the time on this clock? Give your answer using the twenty-four hour clock.
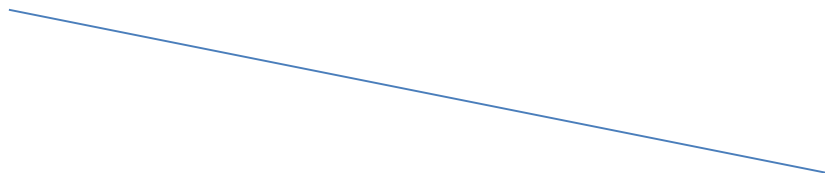
Answer:_____

(2 marks)

b) Draw hands on this clock face to show the time on the digital clock
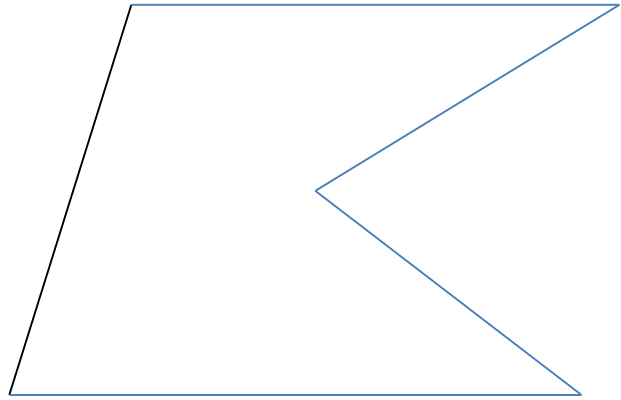
09:32

(2 marks)

4.   Measure this line in mm.

Answer: _____mm

(2 marks)

5.   For angles **inside** this shape, label acute angles A, obtuse angles O, and reflex angles R.

(5 marks)

6.   Change the following units

5.2m   =   _____cm

2750g =   _____kg

3050mm =   _____cm

0.06kg =   _____g

4.3km =   _____m

(5 marks)

7. Fill in the gaps to make these fractions equivalent:

a) $\dfrac{2}{3} = \dfrac{}{6} = \dfrac{}{12}$

b) $\dfrac{1}{4} = \dfrac{}{8} = \dfrac{}{12}$

Now work out $\dfrac{2}{3} + \dfrac{1}{4}$

Answer:_____

(5 marks)

8. Work out, giving you answers in their simplest form, as mixed numbers if appropriate

a) $2\dfrac{2}{5} + 1\dfrac{4}{9}$

Answer:_____
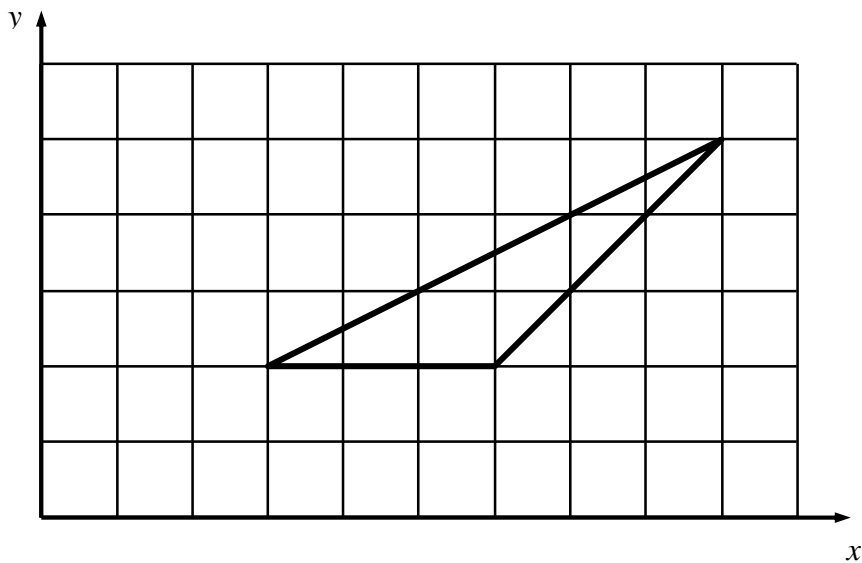
b) $\dfrac{10}{27} \times \dfrac{18}{25}$

Answer:_____

c) $\dfrac{5}{7} \div \dfrac{10}{21}$

Answer:_____

(9 marks)

9. Find the area of the triangle

Answer:_____cm²

(3 marks)

10. From this list of numbers:

3,   6,   17,   23,   24,   28,   49,   72,   112

Choose:

a) A square number   _____

b) A multiple of 9   _____

c) A factor of 56   _____

d) A prime number greater than 20   _____

(4 marks)

6

11.   In a sponsored endurance test, William cycled 14.27km then swam 1.59km,
      and finally ran 4.2km.

a)   How far did he travel altogether?

                                        Answer:_____km
b)   How much further did he run than swim?

                                        Answer:_____km
                                                   (4 marks)

12. Write these numbers in order of size, starting with the smallest.

    2.4,   2.08, $\frac{1}{3}$,   0.25, $2\frac{1}{5}$

                              Answer:_____
                                                   (3 marks)

13. The cost of hiring a concrete mixer is £22 per day plus a delivery charge of £16.

a) How much would it cost to hire the mixer for three days including delivery?

Answer:£_____

b) A builder hired the mixer and was charged a total of £148 including delivery. For how many days was the mixer hired?

Answer: _____days

(5 marks)

14. The jackpot in a lottery is £131 112. 9 people hold equal winning tickets. How much does each person receive?
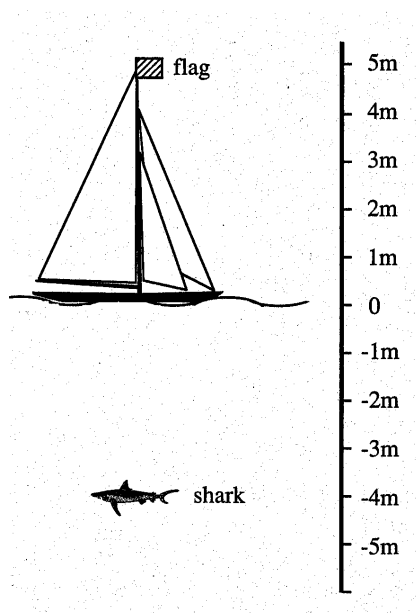
Answer: £_____

(2 marks)

15. Jane has £20 to spend. She buys a magazine costing £2.35, and two bars of chocolate for 78p each. A friend suggests that they go to the cinema. Cinema tickets cost £6.30. Does Jane have enough money to buy the cinema tickets? Explain your answer clearly.

Answer:_____

(5 marks)

16. Negative numbers can be used to describe distances in metres below sea-level.

a) What is the distance between the flag and the shark?

Answer: _____m

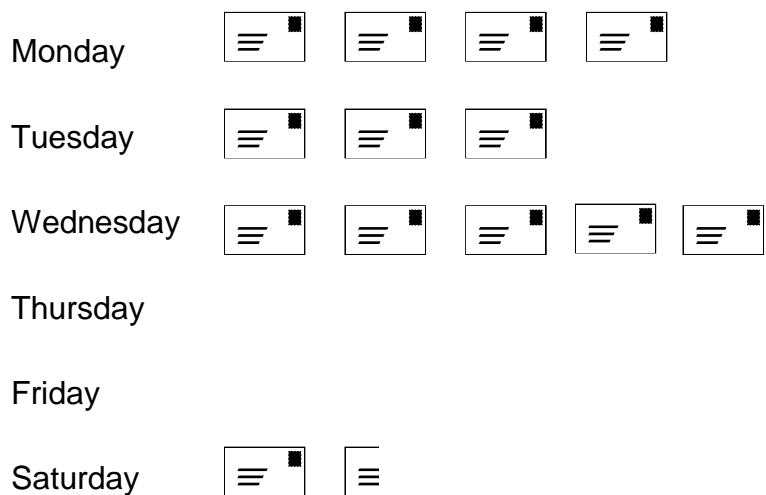b) A small fish is out of sight at −13m. How far below the shark is it?

Answer:_____m

c) If the shark dives another 8 metres, at what depth will it be?

Answer: _____m

(3 marks)

17. The diagram below represents the number of letters which arrived at a school for one teacher each day in a certain week. Each symbol represents 2 letters.

Monday ✉ ✉ ✉ ✉

Tuesday ✉ ✉ ✉

Wednesday ✉ ✉ ✉ ✉ ✉

Thursday

Friday

Saturday ✉ ▭

The diagram is incomplete as Thursday and Friday are not filled in. She received 4 letters on Thursday and 34 letters altogether. Complete the diagram.

(4 marks)

10

18. This table shows how many times Ann scores a mark out of ten in some history tests.

Score out of 10	5	6	7	8	9	10
Number of times	1	4	5	3	1	1

i) How many times did she score 8?

Answer: _____

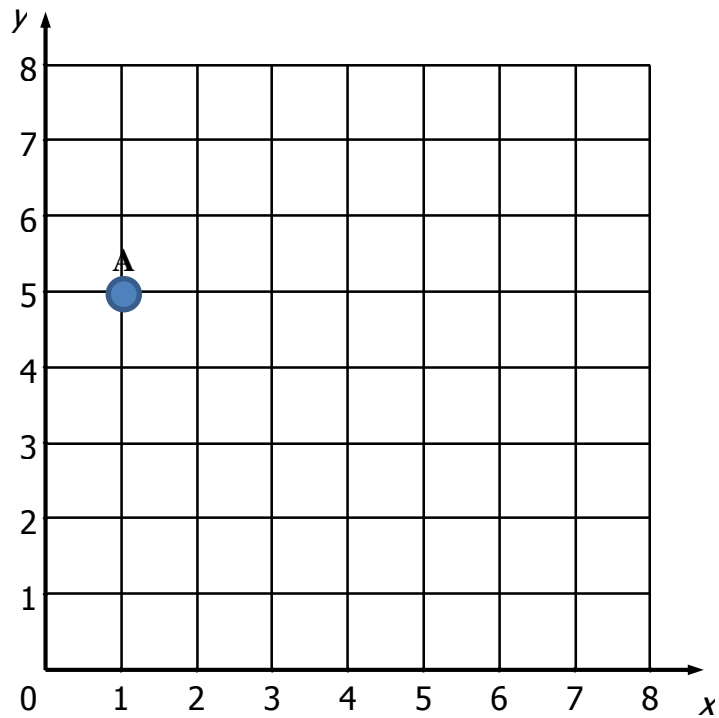ii) How many tests did she do?

Answer: _____

iii) How many of her scores were more than half marks?

Answer: _____

(3 marks)

19.   The diagram shows the point A.

(a) What are the co-ordinates for A?
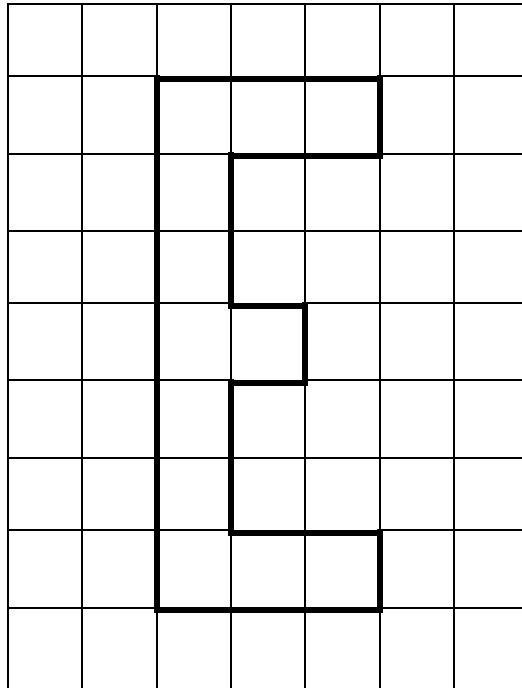
                                                            Answer: (____, ____)

(b) (i)   Draw a line from the point (1, 8) to the point (7, 2).

    (ii)   Mark with a cross the point mid-way between
            (1, 8) and (7, 2). Write down the co-ordinates of this point.

                                                            Answer: (____, ____)
                                                                (6 marks)

20.   A letter E is drawn on squared paper.

Each square has sides 1 cm long.
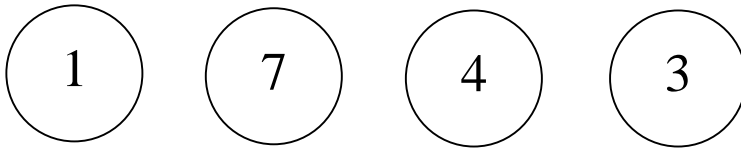
a) What is the area of the letter E?

Answer: _____cm^2

b) What is the perimeter of the letter E?

Answer: _____cm

c) Shade $\dfrac{1}{3}$ of the letter E

(5 marks)

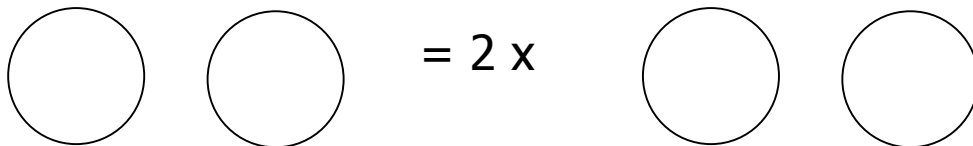21. The diagram shows four discs with numbers on.

(1)   (7)   (4)   (3)

The number shown here is 1743.

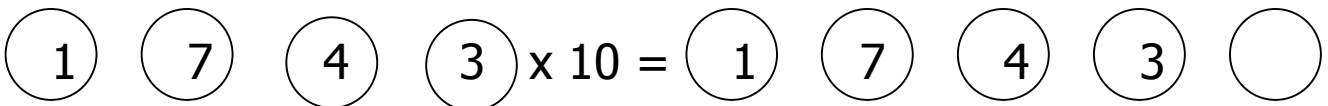a)   Using all these four discs only, write down
       i)   the **largest** number you could make,

                                                          _____

       ii)   the **smallest** number you could make,

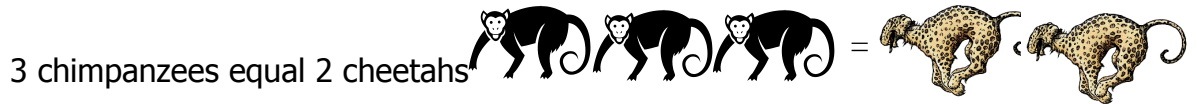   _____

       iii)   the missing numbers in this problem.

( ) ( )   = 2 x   ( ) ( )

b) Write the missing number on the empty disc.

(1) (7) (4) (3) x 10 = (1) (7) (4) (3) ( )

(5 marks)

22. If in the game of 'Jungle',

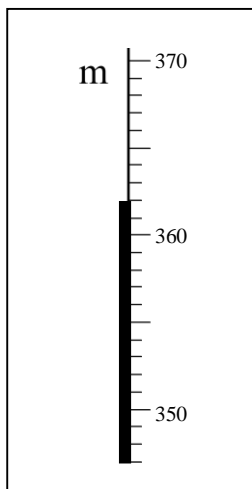4 frogs equal 1 chimpanzee

and

3 chimpanzees equal 2 cheetahs
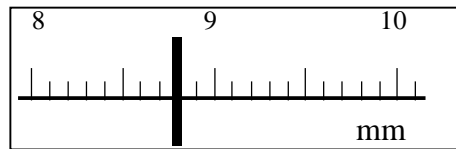
How many frogs are equal to 5 cheetahs?

Answer: 5 cheetahs = _____frogs

(4 marks)

23. Write down the reading on each of these scales:
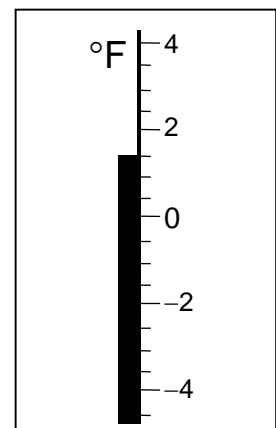
a) ………………m   b) …………………mm   c) ……………°F

(3 marks)

24. Here is part of a bus timetable.
Bolton – Walkden – Manchester
Monday to Fridays

Bolton, Bus Station						0705	
Farnworth, King Street		0630		0654	0709	0724	0739
New Bury, Tennyson Road		0636		0700	0715	0730	0745
Little Hulton, Spa Hotel		0642		0706	0721	0736	0751
Little Hulton, Cleggs Lane		0646		0711	0726	0741	0756
Walkden Centre		0635	0652	0702	0717	0732	0747	0802
Worsley, Court House	0612	0642	0659	0711	0726	0741	0756	0811
Monton Green	0618	0648	0707	0719	0734	0749	0804	0819
Eccles, College Croft	0625	0655	0715	0727	0742	0757	0812	0827
Manchester, Cannon St	0646	0722	0742	0754	0809	0824	0839	0854

A bus is due to arrive at Manchester, Cannon Street at 0809.

   a) At what time should this bus leave Farnworth, King Street?

_____

Only one bus starts from Worsley Court House.
   b) At what time should this bus arrive at Manchester, Cannon Street?

_____

A bus leaves Bolton Bus Station at 0705.

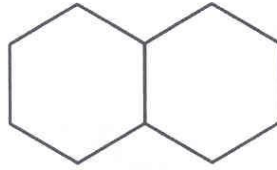   c) How long should it take to travel to Monton Green on this bus?

_____minutes

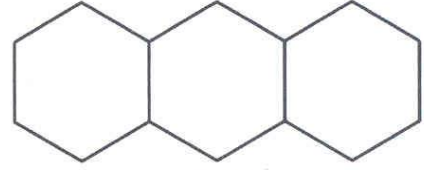*(6 marks)*

25.

Pattern 1   Pattern 2   Pattern 3

Pattern 1 contains 1 hexagon and its perimeter is 6 cm.

Pattern 2 contains 2 hexagons and its perimeter is 10cm.

Pattern 3 contains 3 hexagons and its perimeter is 14 cm.

    a) Draw pattern 4.

       How many hexagons does it contain?   _____

       What is its perimeter?   _____cm

    b) Draw pattern 5.

       How many hexagons does it contain?   _____

       What is its perimeter?   _____cm

    c) How many hexagons would pattern 9 contain? _____

       What would its perimeter be?   _____cm

    d) Explain why the perimeter of a pattern of hexagons could not be 101 cm.

_____

(9 marks)

NOW GO BACK AND CHECK EVERYTHING YOU HAVE DONE