SOLIHULL JUNIOR SCHOOL

10+ ENTRANCE EXAMINATION

MATHEMATICS

SAMPLE PAPER 2

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MATHEMATICS

SAMPLE PAPER

Time: 50 Minutes

Attempt as many questions as you can. Write your answers on this paper in the spaces provided. Read the questions carefully and show your working where necessary. Use any method you like when working out each question.

1. Calculate the following:

   a. 37 + 76 _____

   b. 238 + 85 _____

   c. 867 + 438 _____

2. Calculate the following:

   a. 62 – 45 _____

   b. 247 – 78 _____

   c. 736 – 307 _____

3. Calculate the following:

   a. 73 x 6 _____

   b. 37 x 14 _____

   c. 123 x 45 _____

4. Calculate the following (some **<u>may</u>** have remainders)

   a. $91 \div 7$ _____

   b. $232 \div 8$ _____

   c. $367 \div 6$ _____

   d. $364 \div 14$ _____

5. Mr Lambert went shopping in his local supermarket where he bought a loaf of bread for £1.15, some ham for £2.50 and some milk for £1.25.

   How much change would he get if he paid with a £5.00 note?

   Answer: _____

6. A train travelling from Southampton to Basingstoke begins its journey with 82 passengers. During its journey, it stops at two stations. At the first station, it drops off 24 passengers and picks up 16. At its second stop, it drops off 9 passengers and picks up 15.

   When it finally arrives at Basingstoke, how many passengers are on the train?

   Answer: _____

7. Kate measured her heart beats at 72 beats in 1 minute.

   How many times did her heart beat in 9 minutes?

   Answer: _____

8. Farmer Shaw gathered the apples from his orchard and packed them into boxes.

In a full box, there were 6 rows of 10 apples.

How many apples would there be in seven of these boxes?

Answer: _____

9. Put these fractions in order, starting with the smallest.

a) $\frac{1}{3}$ $\frac{3}{4}$ $\frac{5}{12}$ $\frac{1}{2}$ $\frac{5}{6}$

_____

b) $\frac{2}{3}$ $\frac{5}{9}$ $\frac{1}{6}$ $\frac{2}{9}$ $\frac{1}{2}$

_____

10. Calculate the following:

a. ⅕ of 25 _____

b. ⅛ of 24 _____

c. ⅘ of 45 _____

d. ⅜ of 48 _____

11. $\frac{4}{5}$ of the tickets for a Lady Gaga concert have been sold.

If there are 2000 tickets how many have been sold?

Answer: _____

12. $\frac{4}{5}$ of Dek computers are faulty. If the company has to repair 8000 in one year, how many did they sell?

Answer: _____

13. A 2.5 litre bottle of cola is shared between 5 friends.

How many millilitres does each person get?

Answer: _____

14. A bottle holds 3 litres of lemonade.

Adam fills 6 glasses with lemonade.

There is 1800ml left in the bottle.

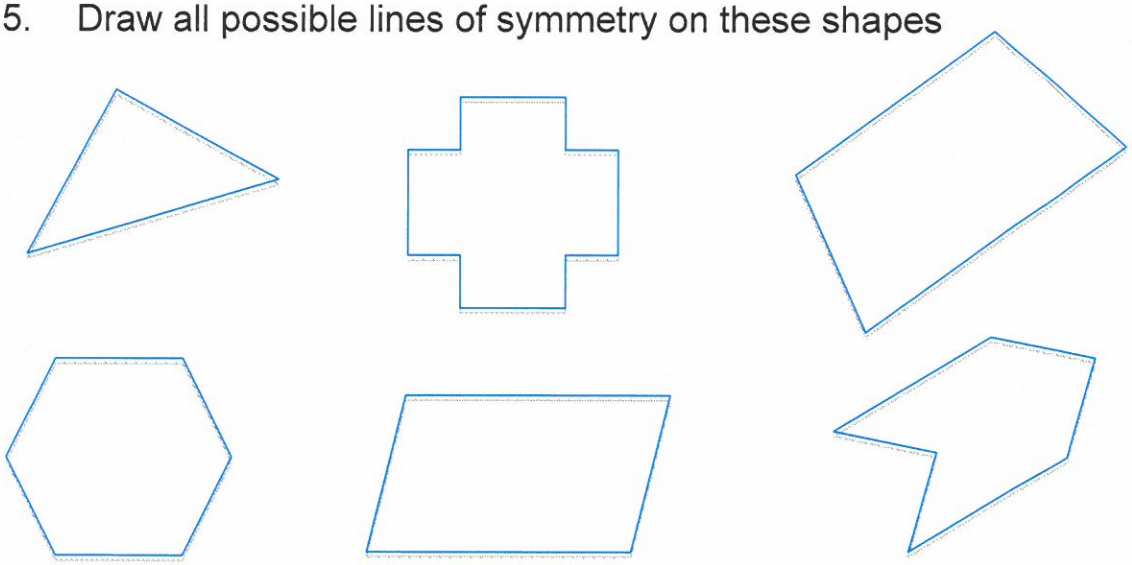
a. How much is in each glass?

Answer: _____

b. How many more glasses of lemonade could he get out of the bottle?

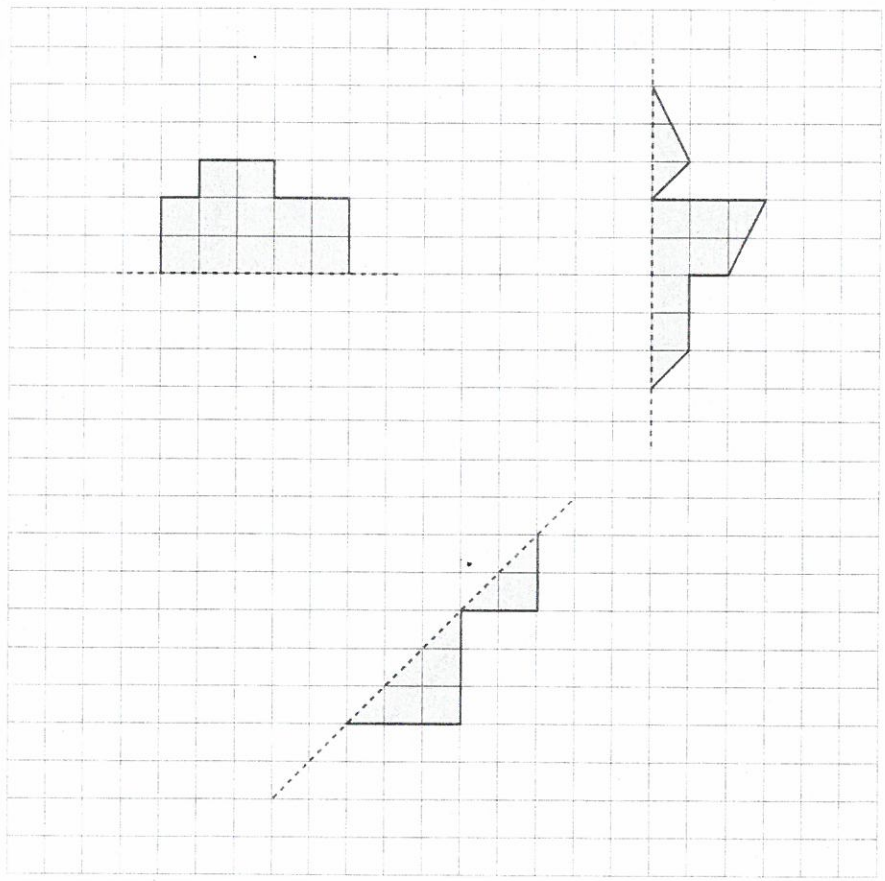
Answer: _____

15. Draw all possible lines of symmetry on these shapes



16. In the drawings below, the lines of symmetry are dotted.

Draw the reflection of each shape in the line of symmetry.



17. One week it rains every day. The river rises by 15 cm a day.

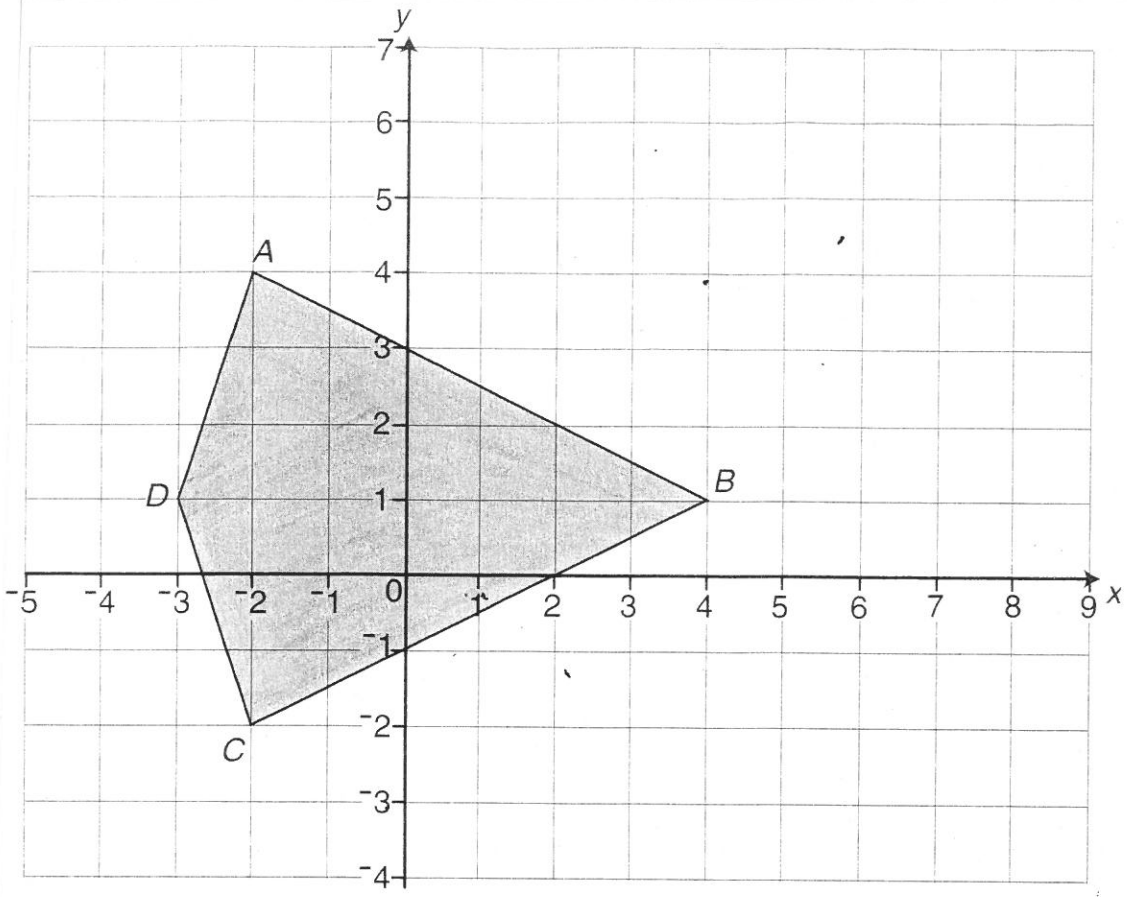
How deep is it after a week if it was 0.86m deep before the rain started?

Answer: _____

18. If 1200 people go to a football match and 54% leave at half time. How many people are left in the ground for the second half?

Answer: _____

19.



a. Write the coordinates of the points *A,B,C* and D.

Answer: A (_____ , _____)

Answer: B (_____ , _____)

Answer: C (_____ , _____)

Answer: D (_____ , _____)

b. Name the shape *ABCD* Answer: _____

c. On the grid above draw and label shape *PQRS* with the following co-ordinates:

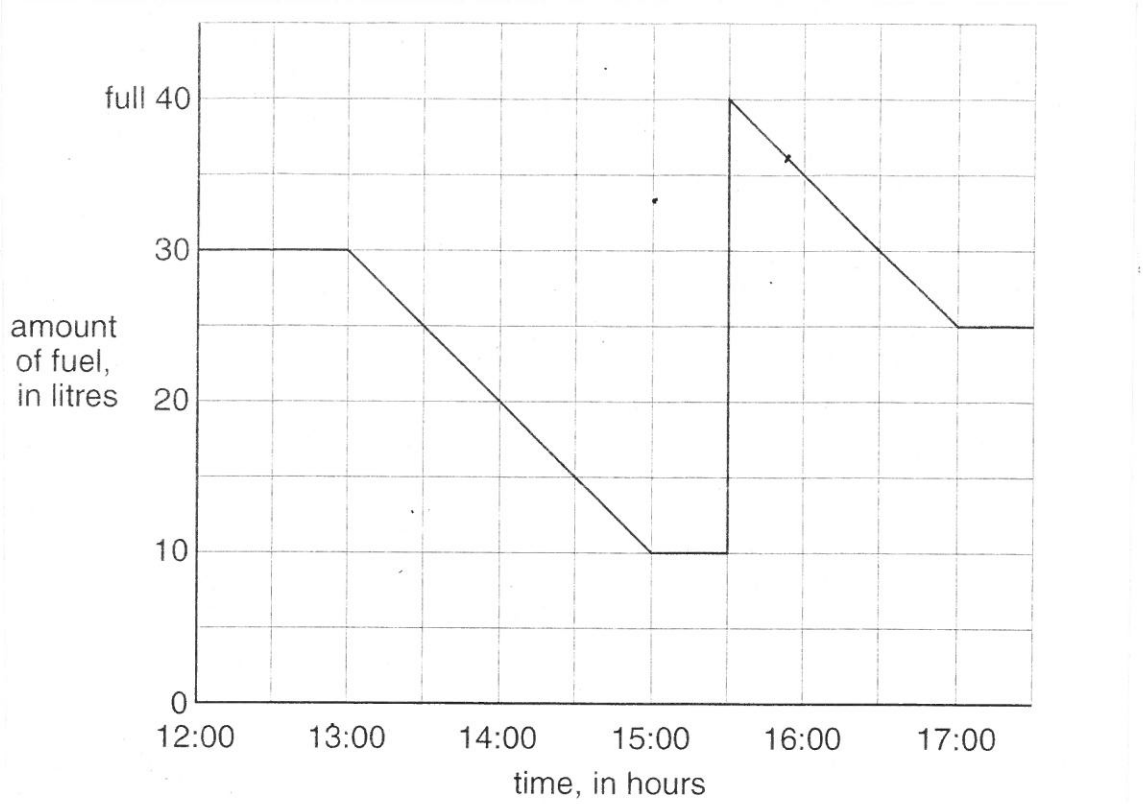
P (6 , -2) *Q* (5 , 2) *R* (6 , 6) *S* (7 , 2)

d. Name the shape *PQRS* that you have just drawn.

Answer: _____

20. Look carefully at the line graph below.

It shows the amount of fuel used in Dr Adkins car during an afternoon.



a. At what time did Dr Adkins begin his journey?

Answer: _____

b. How many litres of fuel had he used when he made his first stop?

Answer: _____

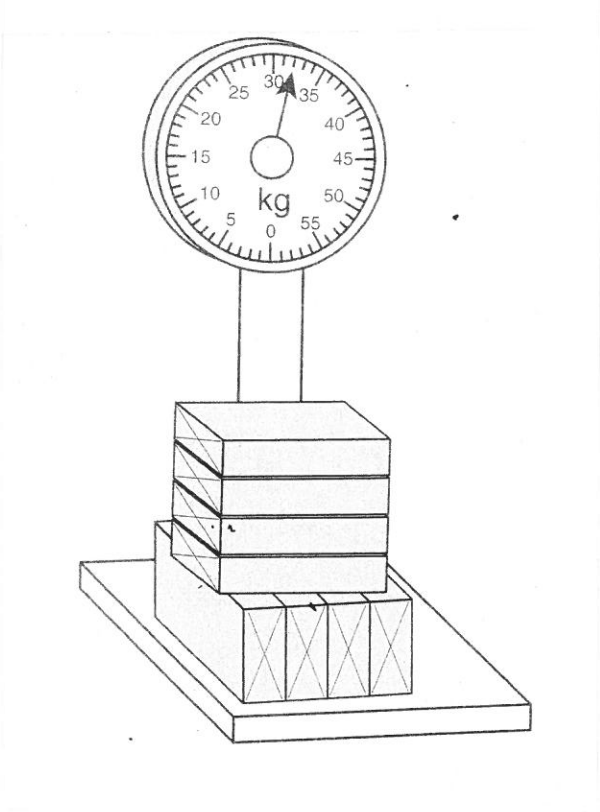
c. At what time did Dr Adkins fill his fuel tank?

Answer: _____

d. In total, how many litres of fuel did Dr Adkins use on his journey?

Answer: _____

21. The diagram below shows eight identical parcels on scales.



a. What is the mass shown on the scales?

Answer: _____

b. What is the mass of each parcel?

Answer: _____

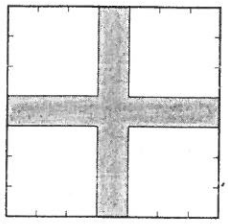
c. As a special offer, the parcels can be sent free if the total mass is **less** than 21kg.

How many parcels must be removed in order to take advantage of this special offer?

Answer: _____

22. Mrs Benali wants to cut out a cross from a square piece of material which has sides of length 7cm.

The width if each arm of the cross is 1cm.



a. What is the overall area of material that will be wasted once the cross has been cut out?

Answer: _____

b. What is the perimeter of the cross?

Answer: _____

23. Calculate the arrival time of a plane if it took off at:

a. 3.24pm and the flight lasted 9 hours and 44minutes

Answer: _____

b. 11.45am and the flight lasted 3 hours and 16 minutes

Answer: _____

c. 21:18 and the flight lasted 5 hours and 33 minutes

Answer: _____

24. A train leaves City A at 9.30am and travels at an average speed of 100km per hour towards City B.

The train arrives at City B at 1pm.

How far is it from City A to City B?

Answer: _____

25. Read the following very carefully:

Frank, Charlie, Johnny and *George* decide to visit their friend. The surnames of the 4 boys, in no particular order, are *Little, Grant, Tailor* and *Miller*.

Miller arrived first, followed by *Johnny*, then *Little. George* arrived last.

Each boy came with a present for their friend. *Miller* gave a DVD, *Frank* gave a pen, *George* gave a bar of chocolate and *Tailor* gave a book.

Using this information, work out the full name of each boy (first name and surname).

Answer: Frank _____

Charlie _____

Johnny _____

George _____