FA Problem Solving Questions – Set 2c

11c. Noah has some marbles.

He gives Keira 20% of his marbles.
He gives Ali 22 of his marbles.

Noah has 18 marbles left.
What percentage of his marbles did Noah give to Ali?

(4 marks)

Price List	
Cheese Roll	£3.50
Crisps	£1.20
Chocolate bar	£1.30
Coffee	£2.50
Tea	£2.00
Orange Juice	£2.20
Exchange rate £1 = 1.25 euros	

12c. Tim is travelling home from holiday by plane.
He buys some food and drink on the plane.

Tim buys three cheese rolls, some crisps, a coffee and an orange juice.

He pays part of the cost with a 10 euro note.
He pays the rest of the cost in pounds (£).

How much does Tim pay in pounds?

(4 marks)

13c. Jenny fills some empty flowerpots completely with compost.
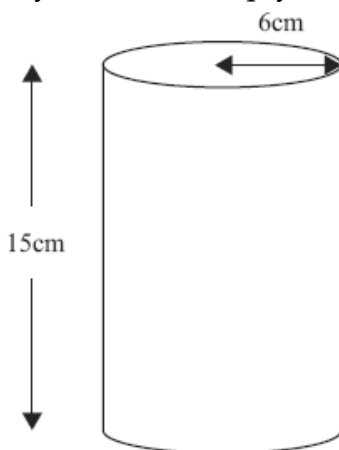

Diagram **NOT**
accurately drawn

Each flowerpot is in the shape of a cylinder of height 15 cm and radius 6 cm.
She needs to fill each flowerpot up with compost which comes in 5 litre bags.

She fills up 23 flowerpots completely.
How many bags of compost does she need to buy?
You must show your working.

(4 marks)

14c. A ladder is 6 m long.
The ladder is placed on horizontal ground, resting against a vertical wall, with the bottom of the ladder being 1.8m away from the wall.

The ladder doesn't reach high enough up the wall.
If you want the ladder to reach an extra 80cm up the wall, then how long would the ladder need to be?
Give your answer correct to 1 decimal place.

(3 marks)

15c. 4 kg of apples and 8 kg of bananas cost £9.72

4 kg of apples and 5 kg of bananas cost £7.50

    a) Work out the cost of 1 kg of bananas.
    b) Work out the cost of 1 kg of apples

(3 marks)

16c. Here are some fractions.

$$\frac{4}{10}, \frac{20}{50}, \frac{16}{45}, \frac{14}{35}, \frac{8}{15}$$

(a) Which two of the fractions are not equivalent to $\frac{2}{5}$

You must show your working.

(3)

(b) Here are two fractions $\frac{3}{8}$ and $\frac{4}{11}$.
Explain which is the larger fraction.

(3)

17c. 87 people were asked if they watched tennis yesterday.
15 of the students are boys.

21 Adults didn't watch tennis
5 out of the 35 girls did watch tennis
9 of the 30 people who watched tennis were boys

One of those who did not watch tennis is to be chosen at random.

Write down the probability that the student chosen will be either a boy or a girl.

(4 marks)

18c. Samantha wants to buy a new pair of trainers.

There are 3 shops that sell the trainers she wants.

Sports '4' All Trainers	Edexcel Sports Trainers	Keef's Sports Trainers
£8.40	Reduced by 28%	**£36.40**
plus	usual price of	plus
12 payments of ?	**£ ?**	VAT at 20%

If all 3 shops sell the trainers at the same price then fill in the missing values in the shaded cells

You must show all of your working.

19c. The table gives information about an estate agent's charges for selling a house.

Value of the house	Estate agent's charges
Up to £120 000	2% of the value of the house
Over £120 000	2% of the first £120 000 plus 1% of the remaining value of the house

Ken uses this estate agent to sell his house.

The estate agent charged Ken £2950 for selling Ken's house then how much did he sell it for?

(4 marks)

20c. Robert is in hospital.

He takes a pill every 8 hours.
He has some medicine every 10 hours.
He has an injection every 3 hours.
He changes a dressing on a wound every 5 hours

Robert took a pill, dressed his wound, had some medicine and an injection.

How long before Robert has all four together again?
You must show your working.

(3 marks)