



FA Problem Solving Questions - Set 2a

11a. Noah has some marbles.

He gives Keira 20% of his marbles.

He gives Ali 70% of his marbles.

Noah has 13 marbles left.

How many marbles did he have to start with?

(4 marks)

12a. Tim is travelling home from holiday by plane.

He buys some food and drink on the plane.

Tim buys two cheese rolls, a coffee and an orange juice.

How much does Tim pay in euros?

(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

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

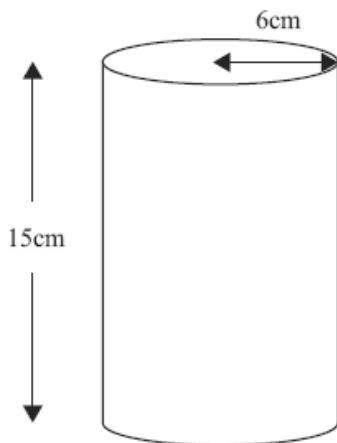


Diagram NOT
accurately drawn

Each flowerpot is in the shape of a cylinder of height 15 cm and radius 6 cm.

She has a 15 litre bag of compost.

She fills up each flowerpot completely.

How many flowerpots can she fill?

You must show your working.

(4 marks)

14a. A ladder is 6 m long.

The ladder is placed on horizontal ground, resting against a vertical wall.

The instructions for using the ladder say that the bottom of the ladder must **not** be closer than 1.5 m from the bottom of the wall.

How far up the wall can the ladder reach?

Give your answer correct to 1 decimal place.

(3 marks)

15a. 5 kg of apples cost £7

2 kg of apples and 3 kg of bananas cost £5.65

Work out the cost of 1 kg of bananas.

(3 marks)

16a. Here are some fractions.

$$\frac{2}{8} \quad \frac{3}{10} \quad \frac{4}{16} \quad \frac{5}{20} \quad \frac{8}{24}$$

(a) Which two of the fractions are not equivalent to $\frac{1}{4}$?

You must show your working.

(3)

(b) Here are two fractions $\frac{3}{5}$ and $\frac{2}{3}$.

Explain which is the larger fraction.

(3)

17a. 50 students were asked if they watched tennis yesterday.

20 of the students are boys.

17 girls watched tennis yesterday.

32 students did not watch tennis yesterday

One of these students is to be chosen at random.

Write down the probability that the student chosen will be a boy who watched tennis yesterday. Give your answer as a fraction.

(4 marks)

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

There are 3 shops that sell the trainers she wants.

Sports '4' All
Trainers
£5
plus
12 payments of £4.50

Edexcel Sports
Trainers
$\frac{1}{5}$ off
usual price of
£70

Keef's Sports
Trainers
£50
plus
VAT at 20%

From which shop should Samantha buy her trainers to get the best deal?

You must show all of your working.

(5 marks)

19a. 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 sold Ken's house for £150 000.

Work out the total charge that Ken will have to pay.

(4 marks)

20a. Robert is in hospital.

He takes a pill every 6 hours.

He has some medicine every 8 hours.

He has an injection every 12 hours.

At 08 00, Robert took a pill, had some medicine and an injection.

At what time will Robert again have all three together?

You must show your working.

(3 marks)