



FA Problem Solving Questions - Set 5c

41c. Dan can put up 35 tiles in one hour.
He always works at the same speed.

He tiles a wall that needs 165 tiles.

He starts work at 7.55 a.m.

He has a 25 minute break in the morning and 55 minutes for lunch.

Work out the time that Dan should finish tiling the wall

(4 marks)

42c. Simon spent $\frac{3}{8}$ of his wages on rent.

He spent 20% of his wages on food.

He spent £160 of his wages on clothes

This left him with 25% of his wages.

How much does Simon earn?

(3 marks)

43c. Jessica's annual income is £14 000

She pays 18% of the £14 000 in rent.

She spends $\frac{3}{7}$ of the £14 000 on clothes.

(a) Work out how much of the £14 000 Jessica has left.

(b) What percentage of her money has Jessica got left?

(3 marks)

44c. Viv is training to keep fit.

One part of Viv's training session is a
40 second run followed by a 25 second jog and then a 2 minute walk.

She then repeats this run, jog and walk cycle until she has been exercising for at least 30 minutes.

Before doing this, she does some warm-up exercises for 12 minutes.

Afterwards she does a 15 minute cooling down exercise.

Viv started this training session at 12 55

(a) How many run, jog, walk cycles does she complete so that she has been exercising for at least 30 minutes? **(4)**

(b) At what time does she finish her training session? **(3)**

45c. A village fair has stalls to raise money for charity.

On one stall there is a game where you roll a 6-sided dice and spin a 4-sided spinner.

The dice is labelled 1, 2, 3, 4, 5, 6

The spinner is labelled 1, 2, 3, 4

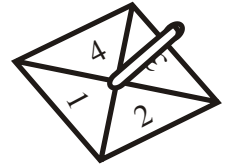
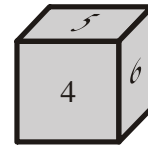
The score on the dice and the score on the spinner are added to get the total score.

People pay to play the game.

The prizes are:

£0.75 for a total score of 7 or 8

£1.80 for a total score of 3, 4 or 5



What is the minimum the stallholder should charge to make a profit?

You must fully explain your answer.

(7)

46c. The length of a flight from New York to Newcastle is 9 hours 15 minutes.

The 08 20 (New York time) flight from New York to Newcastle departs 20 minutes early.

The time in New York is four hours behind the time in Newcastle.

Work out the time (Newcastle time), that the flight is due to arrive in Newcastle.

(3)

There are 240 passengers on the flight.

60 passengers did not have a meal during the flight.

What percentage of the passengers had a meal during the flight?

(3)

47c. Harry has a bowl of flakes for breakfast each morning.

A box contains 500 g of flakes.

(a) He wants to make the box last for two weeks, how many grams can he have in each bowl? You must show all of your working.

(3)

Harry is on a diet.

He is allowed to eat food containing no more than 2000 calories per day.

There are 360 calories per 100g of flakes.

(b) What percentage is one bowl of flakes of his daily allowance?

(2)

Each box of flakes is in the shape of a cuboid.

The dimensions of a box are 23 cm by 7 cm by 30 cm.

(c) Work out the surface area of the box

(3)

48c. There are 200 students at a college

Each student studies one of Art, Graphics or Textiles.

Of the 116 female students, 26 study Graphics.

22 male students study Textiles.

A total of 130 students study Art.

The number of students who study Graphics is the same as the number of students who study Textiles.

Work out how many male students study Art.

(4 marks)

49c . In a class of 31 students
15 of the students study History,
12 of the students study Geography,
7 study both History and Geography.

How many students study neither History nor Geography?

(3 marks)

50c. Which of these two offers for Toilet Rolls is the best value for money?

9 pack for £4.48

Or a 4 pack for £3.50, buy one, get one free?

You must show all of your working

(3 marks)