Fractions, Decimals & Percentages

Question Paper

Course	Edexcel IGCSE Maths
Section	1. Numbers & the Number System
Topic	Fractions, Decimals & Percentages
Difficulty	Medium

Time allowed: 50

Score: /40

Percentage: /100

Question 1

Mr Brown and his 2 children are going to London by train.

An adult ticket costs £24
A child ticket costs £12

Mr Brown has a Family Railcard.

Family Railcard gives
$\dfrac{1}{3}$ off adult tickets
60% off child tickets

Work out the total cost of the tickets when Mr Brown uses his Family Railcard.

[4 marks]

Question 2

Write these numbers in order of size.
Start with the smallest number.

$$0.2\dot{4}\dot{6} \qquad 0.24\dot{6} \qquad 0.\dot{2}4\dot{6} \qquad 0.246$$

[2 marks]

Question 3

Prove that the recurring decimal $0.\dot{3}\dot{6} = \dfrac{4}{11}$

[3 marks]

Question 4

Show that the recurring decimal $0.\dot{3}9\dot{6} = \dfrac{44}{111}$

[2 marks]

Question 5

Use algebra to show that the recurring decimal $0.\dot{4}1\dot{7} = \dfrac{139}{333}$

[2 marks]

Question 6

The people working for a company work in Team **A** or in Team **B**.

number of people in Team **A** : number of people in Team **B** = 3 : 4

$\dfrac{4}{5}$ of Team **A** work full time.

24% of Team **B** work full time.

Work out what fraction of the people working for the company work full time.
Give your fraction in its simplest form.

[3 marks]

Question 7

Alex makes 80 cakes to sell.
He makes chocolate cakes, lemon cakes and fruit cakes where

| number of chocolate cakes | : | number of lemon cakes | : | number of fruit cakes | = | $3:2:5$ |

Alex sells

all of the chocolate cakes

$\dfrac{3}{4}$ of the lemon cakes

$\dfrac{7}{8}$ of the fruit cakes

The profit he makes on each cake he sells is shown in the table.

Type of cake	Profit per cake he sells
chocolate	£2.00
lemon	£1.70
fruit	£2.40

Work out the total profit that Alex makes from the cakes he sells.

£..

[5 marks]

Question 8

Use algebra to show that the recurring decimal $0.2\dot{5}\dot{4} = \dfrac{14}{55}$

[2 marks]

Question 9

Josh buys and sells books for a living.

He buys 120 books for £4 each.

He sells $\dfrac{1}{2}$ of the books for £5 each.

He sells 40% of the books for £7 each.
He sells the rest of the books for £8 each.

Calculate Josh's percentage profit.

[5 marks]

Question 10

Ahmed, Behnaz and Carmen each have some money.
Ahmed has 20% more money than Behnaz.

Carmen has $\dfrac{7}{8}$ of the amount of money that Behnaz has.

Carmen has 31.50 euros.
Work out how much money Ahmed has.

.......................euros

[3 marks]

Question 11

James is taking three examination papers in Spanish.
Here are his first two results.

Paper 1: $\dfrac{43}{80}$ Paper 2: $\dfrac{38}{65}$

Paper 3 is out of 95.
The marks in each of the three papers are added together.

Find the lowest mark that James needs in Paper 3 to achieve 60% of the total marks.

[4 marks]

Question 12a

Without using a calculator, show that $0.\dot{1}\dot{9}$ can be written as $\dfrac{19}{99}$.

[3 marks]

Question 12b

Explain how $\dfrac{19}{99} = 0.\dot{1}\dot{9}$ can be used to find $\dfrac{19}{990}$ as a decimal and write down its value.

$$\dfrac{19}{990} = \dots\dots\dots\dots$$

[2 marks]