Percentages

Question Paper

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

Time allowed: 70

Score: /56

Percentage: /100

Question 1

Railtickets and Cheaptrains are two websites selling train tickets.

Each of the websites adds a credit card charge and a booking fee to the ticket price.

Railtickets

Credit card charge: 2.25% of ticket price

Booking fee: 80 pence

Cheaptrains

Credit card charge: 1.5% of ticket price

Booking fee: £1.90

Nadia wants to buy a train ticket.
The ticket price is £60 on each website.
Nadia will pay by credit card.

Will it be cheaper for Nadia to buy the train ticket from Railtickets or from Cheaptrains?

[4 marks]

Question 2

A company sells boxes to factories.
Fred buys boxes.
The boxes are sold in packs of 1000.
Each pack costs £193.86

Fred orders 3 packs of boxes.
He gets a discount on his total order.

The table shows the discount he will get.

Total Order	Discount
£100 – £300	5%
£301 – £400	10%
£401 and above	15%

Work out the total cost of the order after the discount.
You must show your working.

[5 marks]

Question 3

Greg sells car insurance and home insurance.

The table shows the cost of these insurances.

Insurance	car insurance	home insurance
Cost	£200	£350

Each month Greg earns

      £530 basic pay

      5% of the cost of all the car insurance he sells

and 10% of the cost of all the home insurance he sells

In May Greg sold

      6 car insurances

and 4 home insurances

Work out the total amount of money Greg earned in May.

[5 marks]

Question 4

Mr Watkins needs to buy some oil for his central heating.

Mr Watkins can put up to 1500 litres of oil in his oil tank.
There are already 850 litres of oil in the tank.
Mr Watkins is going to fill the tank with oil.

The price of oil is 67.2p per litre.
Mr Watkins gets 5% off the price of the oil.

How much does Mr Watkins pay for the oil he needs to buy?

[5 marks]

Question 5

The table gives some information about student attendance at a school on Friday.

Year	Number of students		
	Present	Absent	Total
Year 7	192	16	208
Year 8	219	22	241
Year 9	234	28	262
Year 10	233	28	261
Year 11	214	24	238

The school has a target of 94% of students being present each day.

Did the school meet its target on Friday?

[3 marks]

Question 6

Sean wants to go on holiday.

He is going to get a loan of £720 to help pay for the holiday.

Sean will have to pay back the £720 plus interest of 15%.
He will pay this back in 12 equal monthly installments.

How much money will Sean pay back each month?

[4 marks]

Question 7

The table gives information about Ali's spending last month.

Item	Percentage of total spending
rent	30%
food	15%
transport	12%
other	43%

Ali's total spending last month was £800.

Next month Ali's rent, in pounds, is going to rise by 20%.
His total spending will still be the same.

Express the amount of money Ali will spend on rent next month as a percentage of £800.

[3 marks]

Question 8

Bill buys and sells laptops.

Last month Bill bought 50 laptops.
He paid £400 for each laptop.

He sold

    40 of these laptops at a profit of 30% on each laptop
    10 of these laptops at a profit of 15% on each laptop

Bill's target last month was to sell all 50 laptops for a total of at least £25 000
Did Bill reach this target?

[5 marks]

Question 9

Renee buys 5 kg of sweets to sell.
She pays £10 for the sweets.

Renee puts all the sweets into bags.
She puts 250 g of sweets into each bag.
She sells each bag of sweets for 65p.

Renee sells all the bags of sweets.

Work out her percentage profit.

[4 marks]

Question 10

The normal price of a television is reduced by 30% in a sale.

The sale price of the television is £350.

Work out the normal price of the television.

[3 marks]

Question 11

Claire is making a loaf of bread.

A loaf of bread loses 12% of its weight when it is baked.

Claire wants the baked loaf of bread to weigh 1.1 kg.

Work out the weight of the loaf of bread before it is baked.

[3 marks]

Question 12a

Each year Wenford Hospital records how long patients wait to be treated in the Accident and Emergency department.

In 2015 patients waited 11% less time than in 2014
In 2015 the average time patients waited was 68 minutes.

Work out the average time patients waited in 2014
Give your answer to the nearest minute.

[3 marks]

Question 12b

The hospital has a target to reduce the average time patients wait to be treated in the Accident and Emergency department to 60 minutes in 2016.

Work out the percentage decrease from 68 minutes to 60 minutes.

[2 marks]

Question 13

Jules buys a washing machine.

20% VAT is added to the price of the washing machine.
Jules then has to pay a total of £600

What is the price of the washing machine with **no** VAT added?

[2 marks]

Question 14

A force of 70 newtons acts on an area of 20 cm^2

$$pressure = \frac{force}{area}$$

The force is increased by 10 newtons.
The area is increased by 10 cm^2

Helen says,

"The pressure decreases by less than 20%"

Is Helen correct?
You must show how you get your answer.

[3 marks]

Question 15

In a shop, all normal prices are reduced by 20% to give the sale price.

The sale price of a TV set is then reduced by 30%.

Mary says,

"$30 + 20 = 50$, so this means that the normal price of the TV set has been reduced by 50%"

Is Mary right?
You must give a reason for your answer.

[2 marks]