PERCENTAGES

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Higher Tier

1.

3   A bonus of £2100 is shared by 10 people who work for a company.
    40% of the bonus is shared equally between 3 managers.
    The rest of the bonus is shared equally between 7 salesmen.

    One of the salesmen says,

        "If the bonus is shared equally between all 10 people I will get 25% more money."

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

2.

11 Jack and Sadia work for a company that sells boxes of breakfast cereal.

The company wants to have a special offer.

Here is Jack's idea for the special offer.

> Put 25% more cereal into each box and do **not** change the price.

Here is Sadia's idea.

> Reduce the price and do **not** change the amount of cereal in each box.

Sadia wants her idea to give the same value for money as Jack's idea.

By what percentage does she need to reduce the price?

.... %

(Total for Question 11 is 3 marks)

3.

2 On Saturday, some adults and some children were in a theatre.
   The ratio of the number of adults to the number of children was 5 : 2

   Each person had a seat in the Circle or had a seat in the Stalls.

   $\frac{3}{4}$ of the children had seats in the Stalls.

   117 children had seats in the Circle.

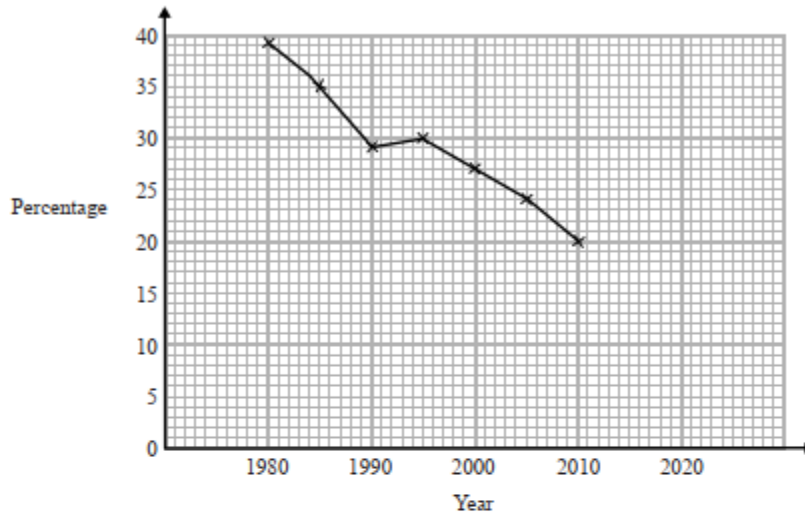   There are exactly 2600 seats in the theatre.

   On this Saturday, were there people on more than 60% of the seats?
   You must show how you get your answer.

_____

(Total for Question 2 is 5 marks)

Pearson Edexcel - Specimen Papers Set 2 - Paper 2 (Calculator) Higher Tier

4.

2   The time series graph shows information about the percentages of the people in a village
    that used the village shop for the years between 1980 and 2010

(a) Describe the trend in the percentage of the people in the village who used the shop
    for this period.

_____

(1)

(b) (i) Use the graph to predict the percentage of the people in the village likely to use
         the shop in the year 2020

_____ %

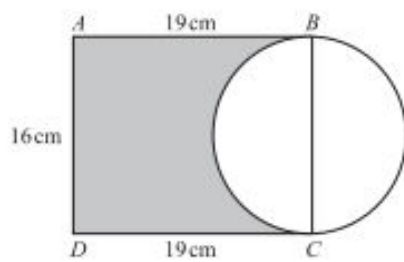   (ii) Is your prediction reliable?
         Explain your answer.

_____

_____

(3)

(Total for Question 2 is 4 marks)

Pearson Edexcel - Specimen Papers Set 1 - Paper 2 (Calculator) Higher Tier

5.

8 Here is a diagram showing a rectangle, *ABCD*, and a circle.

BC is a diameter of the circle.

Calculate the percentage of the area of the rectangle that is shaded.
Give your answer correct to 1 decimal place.

.... %

Pearson Edexcel - Sample Paper 1 - (Non-Calculator) Higher Tier

6.

5   In a company, the ratio of the number of men to the number of women is $3:2$

40% of the men are under the age of 25
10% of the women are under the age of 25

What percentage of all the people in the company are under the age of 25?

....%

(Total for Question 5 is 4 marks)

Pearson Edexcel - Thursday 26 May 2016 - Paper 1 (Non-Calculator) Higher Tier

7.

13 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

....%

(Total for Question 13 is 3 marks)

Pearson Edexcel - Friday 6 November 2015 - Paper 2 (Calculator) Higher Tier

8.

5 Celina and Zoe both sing in a band.

One evening the band plays for 80 minutes.
Celina sings for 65% of the 80 minutes.

Zoe sings for $\frac{5}{8}$ of the 80 minutes.

Celina sings for more minutes than Zoe sings.

Work out for how many more minutes.
You must show all your working.

.... minutes

(Total for Question 5 is 4 marks)

Pearson Edexcel - Wednesday 5 November 2014 - Paper 1 (Non-Calculator) Higher Tier

9.

*2 Karen got 32 out of 80 in a maths test.
She got 38% in an English test.

Karen wants to know if she got a higher percentage in maths or in English.

Did Karen get a higher percentage in maths or in English?

(Total for Question 2 is 2 marks)

Pearson Edexcel - Wednesday 6 November 2013 - Paper 1 (Non-Calculator) Higher Tier

10.

11 Each day a company posts some small letters and some large letters.

The company posts all the letters by first class post.

The tables show information about the cost of sending a small letter by first class post and the cost of sending a large letter by first class post.

Small Letter

Weight	First Class Post
0–100 g	60p

Large Letter

Weight	First Class Post
0–100 g	£1.00
101–250 g	£1.50
251–500 g	£1.70
501–750 g	£2.50

One day the company wants to post 200 letters.

The ratio of the number of small letters to the number of large letters is 3:2

70% of the large letters weigh 0–100 g.

The rest of the large letters weigh 101–250 g.

Work out the total cost of posting the 200 letters by first class post.

£...

(Total for Question 11 is 5 marks)

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

11.

10 Sasha takes a music exam.

The table shows the result that Sasha can get for different percentages in her music exam.

Percentage	Result
50% – 69%	Pass
70% – 84%	Merit
85% – 100%	Distinction

Sasha gets 62 out of 80 in her music exam.

What result does Sasha get?
You must show your working.

....

(Total for Question 10 is 3 marks)

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

12.

20 In a sale normal prices are reduced by 20%.

A washing machine has a sale price of £464

By how much money is the normal price of the washing machine reduced?
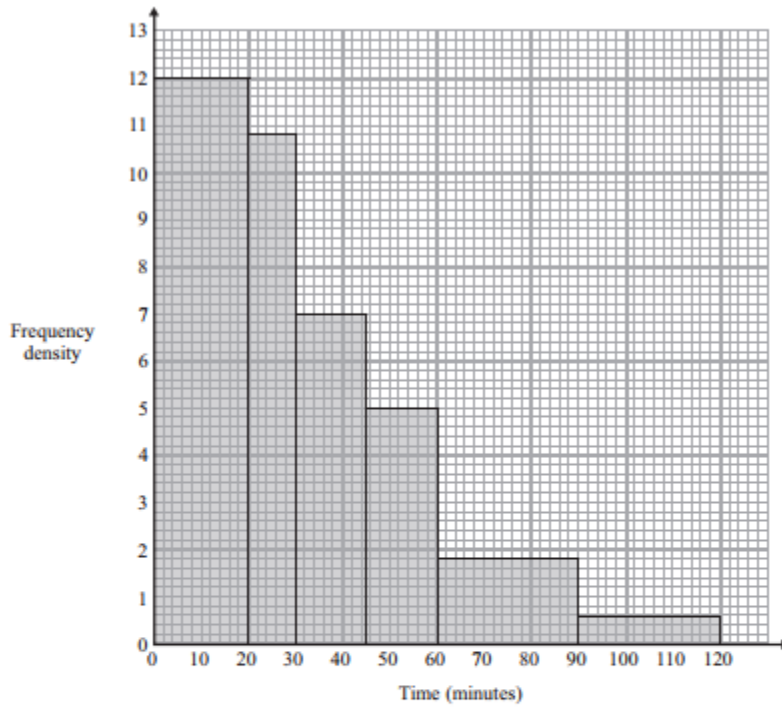
£ ....

(Total for Question 20 is 3 marks)

Pearson Edexcel - Friday 8 November 2013 - Paper 2 (Calculator) Higher Tier

13.

27 The histogram shows information about the times, in minutes, that some passengers had
    to wait at an airport.

Work out the percentage of the passengers who had to wait for more than one hour.

....

(Total for Question 27 is 3 marks)

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

14.

2 Mr Mason asks 240 Year 11 students what they want to do next year.

15% of the students want to go to college.

$\frac{3}{4}$ of the students want to stay at school.

The rest of the students do not know.

Work out the number of students who do not know.

....

(Total for Question 2 is 4 marks)

Pearson Edexcel - Tuesday 11 June 2013 - Paper 1 (Non-Calculator) Higher Tier

15.

16 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.

£...

(Total for Question 16 is 3 marks)

Pearson Edexcel - Monday 11 June 2012 - Paper 1 (Non-Calculator) Higher Tier

16.

*10 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?

(Total for Question 10 is 4 marks)

Pearson Edexcel - Wednesday 9 November 2011 - Paper 3 (Non-Calculator) Higher Tier

17.

9. Two shops both sell the same type of suit.
In both shops the price of the suit was £180

One shop increases the price of the suit by $17\frac{1}{2}$%.

The other shop increases the price of the suit by $22\frac{1}{2}$%.

Calculate the difference between the new prices of the suits in the two shops.

£ ....

(Total 3 marks)

Pearson Edexcel - Friday 12 November 2010 - Paper 4 (Calculator) Higher Tier

18.

7. Noah got 8 out of 20 in a test.

Write 8 out of 20 as a percentage.

.... %

(Total 2 marks)

Pearson Edexcel - Friday 11 June 2010 - Paper 4 (Calculator) Higher Tier

19.

9. Work out £84 as a percentage of £350

.... %

(Total 2 marks)

OCR GSCE – Monday 9 November 2020 – Paper 6 (Calculator) Higher Tier

20.

10 Paintings are sold in an art gallery.
The cost of a painting has k% commission added to it.
Tax of 15% is then added to the total cost to give the price to pay.

Layla correctly calculates the price to pay by multiplying the cost of the painting by 1.403.

Work out the value of k.

$k =$ .... **[3]**

21.

2   Amrit's income is 32% more than Bethan's income.
    Amrit and Bethan's combined income is £54 868.

    Calculate Amrit's income.

    £ .... **[5]**

22.

7   Adam buys some theatre tickets in a sale.

The normal prices are:

> £80 for each adult
> £40 for each child.

In the sale, the prices are reduced by 15%.
Adam buys 2 adult tickets and 1 child ticket at the sale price.
A 2% booking fee is then added to the total cost of the tickets.

Calculate the total amount that Adam must pay.

Ticket Sale
All prices reduced
by 15%

(2% booking fee
applies)

£ .... [6]

23.

10 60% of the people in a town are males.
20% of the males are left-handed.
21.6% of all the people are left-handed.

Work out the percentage of the people who are not male who are left-handed.

.... % **[5]**

24.

4 Here is the nutritional information for a 110g serving of cereal.

Carbohydrates	99.4g
Proteins	9.5g
Fats	1.1g

Emily says that more than 90% of this serving is carbohydrates.

Is she correct?
Explain your reasoning.

....

.... **[3]**

25.

7   Naomi is given a 10% pay decrease.
     Her new wage is £252 per week.

     What would be her weekly wage if, instead, she had received a 10% pay increase?

                                                          £ .... [5]

26.

5   Mo's tyre pressure gauge shows a reading which is 12% higher than the actual pressure.

     What is the actual pressure when Mo's gauge shows 38.64?

                                                          .... [3]

12 Helen delivers parcels.
On Tuesday, Helen delivered 20% more parcels than on Monday.
On Wednesday, Helen delivered 50% fewer parcels than on Tuesday.
On Wednesday, Helen delivered 72 parcels.

Calculate the number of parcels that Helen delivered on Monday.

.... **[5]**

28.

10   Alex and Bev sat six tests, each with 50 marks.

The table shows their mean percentages after five tests.

Alex	60%
Bev	52%

After all six tests, their mean percentages were equal.

In the sixth test, Alex scored 24 out of 50

Work out Bev's score, out of 50, in the sixth test.

[4 marks]

_____

_____

_____

_____

_____

_____

_____

_____

_____

Answer _____ out of 50

AQA GSCE – Thursday 8 June 2020 – Paper 3 (Calculator) Higher Tier

29.

3   Work out 320 as a percentage of 80

        Circle your answer.

        [1 mark]

                25%   75%   300%   400%

AQA GSCE – Tuesday 21 May 2019 – Paper 1 (Non - Calculator) Higher Tier

30.

7   Three friends arrive at a party.

        Their arrival increases the number of people at the party by 20%

        In total, how many people are now at the party?

        [2 marks]

        _____

        _____

        _____

        _____

        _____

        _____

        _____

        Answer _____

31.

19

Lunch
Choose one starter and one main course

There are four starters and ten main courses to choose from.

Two of the starters and three of the main courses are suitable for vegans.

What percentage of the possible lunches have **both** courses suitable for vegans?

[3 marks]

Answer _____ %

AQA GSCE – Thursday 7 June 2018 – Paper 2 (Calculator) Higher Tier

32.

4   Work out 40 as a percentage of 10

Circle your answer.

[1 mark]

4%   25%   300%   400%

AQA GSCE – Thursday 6 November 2017 – Paper 2 (Calculator) Higher Tier

33.

2   What is 50 as a percentage of 20?

Circle your answer.

[1 mark]

10%   40%   150%   250%

AQA GSCE – Wednesday 25 May 2017 – Paper 1 (Non - Calculator) Higher Tier

34.

11   Billy wants to buy these tickets for a show.

   4 adult tickets at £15 each

   2 child tickets at £10 each

A 10% booking fee is added to the ticket price.

3% is then added for paying by credit card.

Work out the **total** charge for these tickets when paying by credit card.

[5 marks]

Answer £ _____

AQA GSCE – Tuesday 13 June 2017 – Paper 3 (Calculator) Higher Tier

35.

16   The value of a new car is £18 000

The value of the car decreases by

25% in the first year

12% in each of the next 4 years.

Work out the value of the car after 5 years.

[3 marks]

_____

_____

_____

_____

_____

_____

_____

Answer £ _____

AQA GSCE – Sample Paper 1 (Non - Calculator) Higher Tier

36.

1   Circle the calculation that increases 400 by 7%

[1 mark]

400×0.07 400×0.7 400×1.07 400×1.7

5   In 1999 the minimum wage for adults was £3.60 per hour.

In 2013 it was £6.31 per hour.

Work out the percentage increase in the minimum wage.

[3 marks]

_____

_____

_____

_____

Answer _____ %