

Percentages

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR and Pearson-Edexcel.

Name:	
Total Marks:	

1. Find 20% of 450.

..... [2]

2. The price of a watch is £230.

In a sale this price is reduced by 16%.

Calculate the sale price.

£ [3]

3. Antonio works Monday, Tuesday and Wednesday.

He starts work at 4.00 pm and finishes at 10.30 pm.

Antonio is paid £10 per hour on weekdays.

One week, he also works for 4 hours on Sunday.

He is paid 50% more on Sundays.

How much does Antonio earn altogether this week?

£ [6]

4. A shop sold goods worth a total of £50 000 in January.

The value of goods sold in February was 10% lower than in January.

(a) Calculate the value of goods sold in February.

£ [2]

(b) Each month, the value of goods sold continued to be 10% lower than the previous month.

When the value of goods sold was less than £35 000, the shop closed at the end of that month.

Show that the store closed at the end of May.

You must show your working.

[3]

(c) The store reopens under new management and sells goods worth £100 000 in the first month.

- The value of goods sold in the second month is 20% more than the first month.
- The value of goods sold in the third month is 10% less than the second month.

Find the percentage increase in the total value of goods sold from the first month to the third month.

..... % [5]

5. Ann, Bob and Carol have a total budget of £500 to rent a holiday apartment.
The apartment normally costs £50 per night, but they can get a 20% discount if they book early.

Calculate how many extra nights they can stay in the apartment if they book early.

..... nights [4]

6. Bridget took a maths test. She scored 28 marks out of 40.

Sam took an English test. He scored 32 marks out of 47.

Sam said

I did better than Bridget as I scored more marks.

By writing each score as a percentage, show that Sam is wrong.

[3]

7. A shop has a sale that offers 20% off all prices.

On the final day they reduce all sale prices by 25%.

Alex buys a hairdryer on the final day.

Work out the overall percentage reduction on the price of the hairdryer.

..... % [6]

8. Lemon drinks are made by mixing concentrate with water.

- (a) Sian has a lemon drink made by mixing 120ml of concentrate with 180ml of water.

What percentage of her lemon drink is concentrate?

..... % [3]

- (b) Sophia has a lemon drink made by mixing 70ml of concentrate with 180ml of water.

Tommy has a lemon drink made by mixing 90ml of concentrate with 270ml of water.

Who has the stronger drink, Sophia or Tommy?

Show your working.

[4]

9. Work out 51% of 400

[2]

10. Sam wants to buy a camera for £345

He has already saved £96

Each week

- his pay is £80
- he saves 30% of this pay.

How many more weeks must he save?

[4]

11. Work out 15% of 80

..... [2]

12. 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

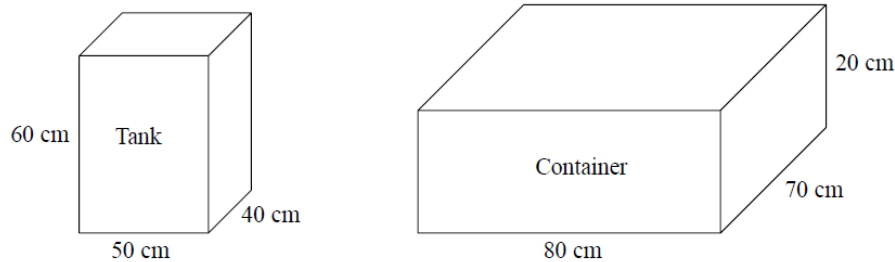
10% of the women are under the age of 25

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

.....%

[4]

13. The diagram shows a tank in the shape of a cuboid.



It also shows a container in the shape of a cuboid.

The tank is full of oil.

The container is empty.

35% of the oil from the tank is spilled.

The rest of the oil from the tank is put into the container.

Work out the height of the oil in the container.

Give your answer to an appropriate degree of accuracy.

..... cm

[5]

14. Work out 234% of 150

..... [2]

15. A and B are two companies.

The table shows some information about the sales of each company and the number of workers for each company in 2004 and in 2014

	Company A		Company B	
	Sales (£ millions)	Number of workers	Sales (£ millions)	Number of workers
2004	320	2960	48	605
2014	388	3200	57	640

Work out the percentage increase in sales from 2004 to 2014 for Company A.

.....% [2]

16. Find 10% of £320

£..... [1]

17. Ryan and Carl each get paid a basic pay of £60 per day.

One day, Ryan also gets a bonus of 25% of his basic pay.

Carl also gets £20 in tips from customers.

Work out the difference between the total amounts of money that Ryan and Carl each get.

..... [3]

18. Some people were asked if they liked swimming or cycling or running.

	Swimming	Cycling	Running
Male	2	6	4
Female	8	5	5

Work out the percentage of the 30 people that are female.

..... % [2]

19. Irena sells ice creams.

One day she sells 80 ice creams.

The next day she sells 108 ice creams.

Work out the percentage increase in the number of ice creams she sells.

..... % [3]

20. Rachel carried out a survey of 10 people to find out the type of fruit they like best.

The table gives information about her results.

Type of fruit	Number of people
apple	2
banana	5
orange	3

In Rachel's survey, 2 out of 10 people like apples best.

Write 2 out of 10 as a percentage.

.....% [1]

21. A gym has 275 members.

40% are bronze members.

28% are silver members.

The rest are gold members.

Work out the number of gold members.

[3]

22. 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]

23. 24 boys, 45 girls and 281 adults are the members of a badminton club.

50 more children join the club.

The number of girls is now 18% of the total number of members.

How many of the 50 children were boys?

[4]

24. Hayley and Tom have £2000 to spend on food at their wedding.

Here are their two options.

Work out the maximum number of people they can pay for.

Wonderful Weddings!	
Normal price	£32 per person
Special offer	
10% off	

Kim the Caterer	
Number of people	Price per person
100 & over	£24.50
80 to 99	£26.50
60 to 79	£28.50
up to 59	£30.50

Show working to compare the maximum number of people for both options.

[5 marks]

25. Here is some information about a group of children.

	Boys	Girls
Left-handed	3	8
Right-handed	12	20

What percentage of the boys are left-handed?

[2]

26. Increase 4200 by 38%

[2]

27. Work out 258% of 6300

[2]

28. In a school, 60% of the students are girls.

50% of the girls walk to school.

20% of the boys walk to school.

What percentage of the students walk to school?

[3]