Averages and percentages

1

The mean of five prices is £8. Four of them are £6, £7, £9 and £10. Find the fifth price. What percentage of the total is it?

Total $5 \times 8 =$ 40

Fifth price $40 - 32 =$ 8

Percentage $8 \div 40 \times 100 =$ ☐ %

Answer _____

2

The mean mass of 6 parcels is 2.5 kg. A seventh parcel is added and the mean becomes 3 kg. What percentage of the total mass is the seventh parcel? Give your answer to 1 decimal place.

Totals 15 kg and 21 kg

Seventh parcel ☐ kg

Percentage ☐ %

Answer _____

3

Jo's mean score over 4 rounds is 30. Her score in round 5 raises her mean to 32. By what percentage is her round 5 score higher than her old mean? Give your answer to 1 decimal place.

Totals ☐ and ☐

Round 5 score ☐

Percentage ☐ %

Answer _____

4

The mean of 8 numbers is 15. One number is removed and the mean of the other 7 is 14. What percentage of the original total was the number removed? Give your answer to 1 decimal place.

Percentage ☐ %

Answer _____

5

A team scores 48, 52 and 56 points in three games. In the fourth game it scores 25% more than its mean so far. Find its new mean score.

Answer _____

6

Three tests are each marked out of 40. Sam scores 75%, 60% and 90%. Find his mean mark out of 40.

Answer _____

7

Last year the mean time of 10 runners was 50 minutes. This year 9 of them take 405 minutes in total and the tenth takes 54 minutes. Find the percentage decrease in the mean time.

Answer _____

8

Class A has 20 pupils with a mean score of 60. Class B has 30 pupils with a mean score of 70. Find the mean of all 50 pupils. By what percentage is it higher than the mean of class A?

Answer _____

Averages and percentages *further practice*

9

The mean salary of 6 people is £25,000. One person gets a 12% pay rise and the mean becomes £25,600. Find that person's salary before the rise.

Answer _____

10

A shop's mean daily takings over 5 days are £420. On the sixth day the takings are 15% below that mean. Find the mean daily takings over the 6 days.

Answer _____

11

A test is marked out of 80. Ali scores 65%, Ben 70%, Cara 85% and Dev 60%. Find their mean mark.

Answer _____

12

The mean of five numbers is 20. One of the numbers is increased by 50% and the mean becomes 22. Find that number.

Answer _____

13

Group A is 12 people with a mean height of 160 cm. Group B is 8 people with a mean height of 170 cm. By what percentage is the mean height of all 20 people more than the mean of group A?

Answer _____

14

A batter's mean score over 9 innings is 36. After the tenth innings the mean has gone up by 5%. What did the batter score in the tenth innings?

Answer _____

15

In a sample of 25 apples the mean mass is 120 g. 20% of the apples have a mean mass of 100 g. Find the mean mass of the rest.

Answer _____

16

Ella scores 40% on a test out of 20, 60% on a test out of 50 and 80% on a test out of 100. She says her overall percentage is 60%. Explain her mistake and find her overall percentage.

Answer _____