Percentages – the sign is %

Per cent or out of a hundred or for every hundred. Cent is related to century.

100 cents = 1 dollar or 100 cents = 1 Euro

1 centimetre = 1/100 of a metre.

It is related to fractions and decimals and also to division (by 100).

Uses – Percent is used when a shop has a sale – 10% off everything, or with statistics – 15% of people prefer salt and vinegar crisps.

Examples

10% means 10 out of every hundred. As a fraction it is 10/100 (or 1/10 simplified). As a decimal 0.1.

So 10% is the same as 10/100 is the same as 1/10 is the same as 0.1.

35% means 35 out of every 100 or 35/100 or 0.35. They all mean the same. (35/100 can be simplified to 7/20 each part is divided by 5) You have done simplifying fractions before.

You fill in the missing numbers.

65% means /100 or 0. Simplify the fraction /

Answers

65/100 0.65 13/20

Try some more. Remember to simplify the fraction by finding a common factor of the numerator and denominator; the same number that divides into both parts.

1. 25% = /100 = 0. Simplified fraction /
2. 90% = /100 = 0. Simplified fraction /
3. 6% = /100 = 0. Simplified fraction /
4. 17% = /100 = 0. Simplified fraction /
5. 20% = /100 = 0. Simplified fraction /
6. 25% = 25 /100 = 0.25 Simplified fraction 1/4
7. 90% = 90 /100 = 0.90 or 0.9 Simplified fraction 9/10
8. 6% = 6/100 = 0.06\* Simplified fraction 3/50
9. 17% = 17/100 = 0.17 Simplified fraction 17 /100
10. 20% = 20 /100 = 0.20 or 0.2 Simplified fraction 1/5

Reminder

15% means 15 out of each 100

If 15% of people like salt and vinegar crisps, this means that in every 100 people in a group, 15 like salt and vinegar crisps.

If the group was 200, then 30 would like salt and vinegar crisps, 15 people in each 100. (There are two hundreds so there will be twice as many)

How many would like s and v crisps in a group of 300?

Answer - 15 in each of the three hundreds making 45 in total (15 + 15 + 15)

Try these:

1. 20% of a school of 100 pupils have blond hair. How many pupils have blond hair? (Remember that 20% means 20 out of each 100) Answer ………………….
2. If the school had 300 pupils and 20% had blond hair, how many pupils would have blond hair? (Remember that 20% means 20 out of each 100)
3. In a survey of 100 birds, 45% spotted were sparrows. How many sparrows were spotted?
4. If 200 birds were spotted and 45% were sparrows, how many sparrows were spotted?
5. In a block of 100g of cheese, 65% of it is protein. How many grams of the cheese is protein?
6. If the block is 200g, how much is protein?

Answers

1. 20 pupils
2. 60 pupils (20 x 3)
3. 45 are sparrows
4. 90 are sparrows (45 x 2)
5. 65g protein
6. 130g protein (65g x 2)

Some good equivalents to know

|  |  |  |
| --- | --- | --- |
| Percentage | Fraction | Decimal |
| 1% | 1/100 | 0.01 |
| 10% | 10/100 or 1/10 | 0.1 |
| 25% | 25/100 or ¼ | 0.25 |
| 50% | 50/100 or ½ | 0.5 |
| 75% | 75/100 or ¾ | 0.75 |