

Fractions and Percentages

Word Problems

The questions on this worksheet are all about fractions and percentages.

Read the questions carefully, underlining the key information as you go. Make sure you show your working out, as this will stop you from making silly mistakes!

1. For her birthday, Marnie receives a huge box containing 270 chocolates. Two weeks later, she has eaten 40% of the chocolates. How many chocolates does she have left?



2. Arjun buys a pair of trainers that have 30% off in a sale. If the trainers cost £75 full price, how much does Arjun pay for them?

3. There are 360 flowers in a garden. $\frac{2}{6}$ of the flowers are tulips, $\frac{1}{9}$ are lilies, and the rest are roses. How many roses are there in the garden?

4. At a restaurant, pasta costs 10% more than a pizza. If pizzas cost £6.50, how much is pasta?

5. Out of 204 people in a school hall, 192 are students, and the rest are teachers. What fraction of the people in the hall are teachers? Give your answer in its simplest form.



More Fractions and Percentages
Word Problems

6. Maya's grandma gives her £7 pocket money, and she promises her an extra 25% if she goes to the shop for her. How much pocket money will Maya get altogether if she goes to the shop?

7. Penny and Ahmed are counting cars going by on a racetrack. 28 cars go by in total, and 16 of them are red. What fraction of the cars are not red? Give your answer in its simplest form.



8. The volume of a swimming pool is 470m^3 . If 70% of the swimming pool is filled with water, what is the volume of the part of the pool that remains empty?

9. 68% of students in a school prefer action films to romantic comedies. If there are 1,100 students altogether, how many of them prefer action films?

10. It takes Rohan a week to read $\frac{1}{18}$ of a large fantasy novel. After how many weeks will he have read half of the novel?



Answers

1. 162 chocolates.

If 40% have been eaten, 60% are left. First find 10% of 270 = 27, then multiply this by 6 to get 60%. $27 \times 6 = 162$.

2. £52.50

10% of £75 = £7.50, so multiply this by 3 to get 30%. $£7.50 \times 3 = £22.50$. £75 - £22.50 (because it's 30% **off**) = £52.50

3. 200 roses

$\frac{2}{6}$ is the same as $\frac{1}{3}$, so there are 120 tulips ($360 \div 3$). $\frac{1}{9}$ of 360 = 40, so there are 40 lilies ($360 \div 9$). $360 - 120 - 40$ leaves 200 flowers left, which must be roses

4. £7.15

10% of £6.50 = 65p. $£6.50 + 65p = £7.15$

5. $\frac{1}{17}$

204 - 192 students leaves 12 teachers. As a fraction this is $\frac{12}{204}$, which is $\frac{1}{17}$ in its simplest form (\div the numerator and the denominator by 12)

6. £8.75

25% of £7 is £1.75 ($£7 \div 4$). $£7 + £1.75 = £8.75$

7. $\frac{3}{7}$

$\frac{12}{28}$ of the cars are not red, which is $\frac{3}{7}$ in its simplest form (\div the numerator and the denominator by 4)

8. 141m^3

If 70% of the pool is filled, 30% is empty. 30% of $470\text{m}^3 = 141\text{m}^3$ (10% = 47, $\times 3 = 141$)

9. 748

68% of 1,100 = 748 (to find 60%, do 10% = 110, $\times 6 = 660$. To find 8%, do 1% = 11, $\times 8 = 88$. $660 + 88 = 748$)

10. 9 weeks

$\frac{9}{18}$ is the same as $\frac{1}{2}$, so it would take him 9 weeks