

Time and Percentages

Work through the following real-life percentage problems. Use a calculator to assist with the calculations and round your answers to two decimal places where appropriate.

1. If a person spends $\frac{2}{3}$ of their day working and $\frac{1}{6}$ sleeping, what percentage of the day is left for other activities?
2. Emma spends 30% of her day at school and 45% sleeping. What percentage of her day remains for other activities?
3. A runner completes $\frac{3}{8}$ of a marathon before taking a break. What percentage of the marathon does she have left to finish?
4. Out of a 24-hour day, Liam spends 8 hours at work and 6 hours studying. What percentage of the day does he spend on these two activities combined?
- 5.
5. If a recipe calls for $\frac{1}{4}$ cup of sugar and $\frac{3}{4}$ cup of flour, what percentage of the total mixture is sugar?
6. Sarah spends 5 hours out of her 20-hour study week practising piano. What percentage of her study time does this represent?
7. In a class of 40 students, $\frac{3}{5}$ passed the exam. What percentage failed?
8. A shopkeeper sold 120 out of 200 apples. What percentage of apples remain unsold?
9. If a car travels 150 km out of a 600 km journey, what percentage of the journey is complete?
10. Out of a budget of £500, $\frac{2}{5}$ is spent on rent. How much is left in pounds and as a percentage?

1.

$$\frac{2}{3} + \frac{1}{6} = \frac{4}{6} + \frac{1}{6} = \frac{5}{6}$$

of the day is spent. Time left:

$$1 - \frac{5}{6} = \frac{1}{6}$$

. Percentage:

$$\frac{1}{6} \times 100 \approx \mathbf{16.67\%}$$

2. Total used: 30% + 45% = 75%. Left: 100% - 75% = **25%**.

3. Fraction left:

$$1 - \frac{3}{8} = \frac{5}{8}$$

. Percentage:

$$\frac{5}{8} \times 100 = \mathbf{62.5\%}$$

4. Total hours spent: 8 + 6 = 14 hours. Percentage:

$$\frac{14}{24} \times 100 \approx \mathbf{58.33\%}$$

5. Total mixture =

$$\frac{1}{4} + \frac{3}{4} = 1$$

cup. Sugar percentage:

$$\frac{1}{4} \times 100 = \mathbf{25\%}$$

6.

$$\frac{5}{20} = \frac{1}{4}$$

. Percentage:

$$\frac{1}{4} \times 100 = \mathbf{25\%}$$

7. Passed:

$$\frac{3}{5} \times 40 = 24$$

students. Failed: $40 - 24 = 16$. Percentage failed:

$$\frac{16}{40} \times 100 = \mathbf{40\%}$$

8. Unsold: $200 - 120 = 80$. Percentage:

$$\frac{80}{200} \times 100 = \mathbf{40\%}$$

9. Percentage completed:

$$\frac{150}{600} \times 100 = \mathbf{25\%}$$

10. Spent:

$$\frac{2}{5} \times 500 = \pounds 200$$

. Left: $\pounds 500 - \pounds 200 = \pounds 300$. Percentage:

$$\frac{300}{500} \times 100 = \mathbf{60\%}$$