

# 2 Percentage and percentage changes

## Percentage

### Guided questions

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- 1 Add the market share of the top three firms:

$$45\% + 20\% + 15\%$$

$$= 80\%$$

- 2 Step 1:  $\frac{2}{100} \times \text{£}2\,500$

$$= \text{£}50$$

Step 2:  $\text{£}50 + \text{£}2\,500$

$$= \text{£}2\,550$$

- 3 a  $\frac{\text{£}99 \text{ billion}}{\text{£}743 \text{ billion}} \times 100$

$$= 13.2423\dots\%$$

$$= 13.2\%$$

- b  $\frac{\text{£}232 \text{ billion}}{\text{£}743 \text{ billion}} \times 100$

$$= 31.2247\dots\%$$

$$= 31.2\%$$

- 4 a  $\frac{20}{100} \times (\text{£}14\,650 - \text{£}10\,000)$

$$= 0.2 \times \text{£}4\,650$$

$$= \text{£}930$$

- b  $\frac{\text{£}930}{\text{£}14\,650} \times 100$

$$= 6.34812\dots\%$$

$$= 6.35\% \text{ (3 s.f.) (or similar rounding)}$$

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### Practice questions

- 5  $\frac{\text{£}300\,000}{\text{£}1\,200\,000} \times 100$

$$= 25\%$$

- 6  $\frac{30}{100} \times \text{£}620 \text{ billion}$

$$= \text{£}186 \text{ billion}$$

**7 a**  $\frac{\text{£54 billion}}{\text{£745 billion}} \times 100$   
 $= 7.2483\dots \% \text{ of GDP}$   
 $= 7.25\% \text{ of GDP (3 s.f.) (or similar rounding)}$

**b**  $\frac{\text{£612 billion}}{\text{£745 billion}} \times 100$   
 $= 82.14765\dots \%$   
 $= 82.1\% \text{ of GDP (3 s.f.) (or similar rounding)}$

**8 a**  $\frac{72}{100} \times 4.5 \text{ million}$   
 $= 3.24 \text{ million}$

**b**  $\frac{6}{100} \times 4.5 \text{ million}$   
 $= 0.27 \text{ million}$

**9**  $\frac{\text{£330 500} + \text{£220 750} + \text{£99 500}}{\text{£330 500} + \text{£220 750} + \text{£99 500} + \text{£98 750}} \times 100$   
 $= \frac{\text{£650 750}}{\text{£749 500}} \times 100$   
 $= 86.8245\dots \%$   
 $= 87\% \text{ (to the nearest percentage)}$