

<b>Student name</b>	<b>Date</b>
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## 4.06 Applications of percentages (2)

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**1** 11% of the DVDs rented out by a video rental business are returned late. If the business rents out 700 DVDs one day, estimate how many will be returned late.

**2** A dentist gives painkilling injections to 65% of her patients. If there are 250 patients expected next month, how many will need the injections?

**3** A regional park plans to resurface 6% of the walking tracks every year. If the total length of tracks in the park is 78 km, what length will the park plan to replace in a two year period?

**4** An internet service provider hires staff to deal with complaints. Records show that 14% of their customers make complaints. If they have 17 600 customers, how many of these customers will be expected to complain? Give your answer to the nearest hundred.

**5** Fiona works in a bank. She will get a bonus if  $2\frac{1}{2}\%$  of the customers she deals with agree to buy other products, like insurance. If she dealt with 350 customers last week, and 7 agree to buy other products, explain whether she will get a bonus.

**6** An airline offers two kinds of hot drink to passengers – tea and coffee. On a flight recently 35 passengers were served tea, and 45 were served coffee. 20% of the passengers added sugar to their hot drink. How many passengers did *not* add sugar to their hot drink?

**7** An auctioneer charges a fee of  $3\frac{3}{4}\%$  when it successfully sells items. Calculate its fee for these sales:

**a** a painting that sells for \$7200.

**b** a Ming vase that sells for \$1850.

**8** Tickets for a concert are sold to children for 65% of the adult price. If an adult pays \$220, what would a child pay for a ticket?

**9** A regional authority grants a concession to a shop to sell refreshments in a park. In return the shop has to pay  $16\frac{2}{3}\%$  of the total value of the sales to the regional authority. How much will the shop have to pay to the council for total sales of \$72 650?

**10** A firm of real estate agents charge a ‘sliding’ commission on sales. The fees to sellers are shown in the table.

Sale price	Fee
Under \$200 000	4.5%
\$200 000 to \$630 000	\$9000 plus 3.75% of everything over \$200 000
Over \$630 000	\$25 125 plus 2.25% of everything over \$630 000

Calculate the fees charged on these sales:

**a** A home unit that sells for \$185 000.

**b** A villa that sells for \$466 000.

**c** A penthouse that sells for \$1 277 000.

