

# Fraction, percentage, ratio problems (A)

A bag contains 320 sweets. The sweets are either strawberry, orange, lemon or mint flavoured.

$\frac{1}{4}$  of the sweets are strawberry

30% of the sweets are orange

The ratio of lemon sweets to mint sweets is 3:1

Work out the number of lemon sweets in the bag.

$$\frac{1}{4} \text{ of } 320 = 80 \text{ strawberry}$$

$$30\% \text{ of } 320 = 96 \text{ orange}$$

$$320 - 80 - 96$$

$$= 144 \text{ lemon and mint}$$

$$3 + 1 = 4$$

$$\frac{144}{4} = 36$$

$$36 \times 3 = 108 \text{ lemon}$$

480 people visit a leisure centre. They each use the pool, gym, sports hall or café.

$\frac{3}{8}$  of the people use the pool

35% of the people use the gym

The ratio of people using the sports hall to people using the café is 5:7

Work out the number of people who use the sports hall.

$$\frac{3}{8} \text{ of } 480 = 180 \text{ pool}$$

$$35\% \text{ of } 480 = 168 \text{ gym}$$

$$480 - 180 - 168$$

$$= 132 \text{ sports hall and cafe}$$

$$5 + 7 = 12$$

$$\frac{132}{12} = 11$$

$$11 \times 5 = 55 \text{ sports hall}$$

A farm has 540 animals. The animals are either cows, sheep, pigs or chickens.

$\frac{5}{12}$  of the animals are cows

20% of the animals are sheep

The ratio of pigs to chickens is 2:7

Work out the number of chickens on the farm.

$$\frac{5}{12} \text{ of } 540 = 225 \text{ cows}$$

$$20\% \text{ of } 540 = 108 \text{ sheep}$$

$$540 - 225 - 108$$

$$= 207 \text{ pigs and chickens}$$

$$2 + 7 = 9$$

$$\frac{207}{9} = 23$$

$$23 \times 7 = 161 \text{ chickens}$$

A cinema has 900 seats. Every seat is taken. The audience are watching either an action film, a comedy, a horror film or an animation.

$\frac{5}{9}$  of the audience are watching the action film

20% of the audience are watching the comedy

The ratio of people watching the horror film to people watching the animation is 3:7

Work out how many more people are watching the animation than the horror film.

$$\frac{5}{9} \text{ of } 900 = 500 \text{ action}$$

$$20\% \text{ of } 900 = 180 \text{ comedy}$$

$$900 - 500 - 180$$

$$= 220 \text{ horror and animation}$$

$$3 + 7 = 10$$

$$\frac{220}{10} = 22$$

$$22 \times 3 = 66 \text{ horror}$$

$$22 \times 7 = 154 \text{ animation}$$

$$154 - 66 = 88$$