Predictions as Percentages

Exercise 1

1) Sarah is confused by her test marks in English for October and March.

   October: 20 out of 25
   March: 24 out of 30

   Calculate her percentage mark for each test. Had she improved? Justify your answer by calculation.

2) Mark sowed three different kinds of flower seeds. The results are shown below.

   Type A produced 40 plants from 50 seeds
   Type B produced 35 plants from 40 seeds
   Type C produced 23 plants from 25 seeds.

   Which flower seed was most successful? Justify your answer by calculation.

3) Two dance clubs are to send representatives to a show. The representatives are chosen at random.

   Club A has 26 members and 5 tickets to use.
   Club B has 34 members and 7 tickets to use.

   In which club does any one person have a better chance of being selected? Justify your answer by calculation.

4) Three rugby teams play in the same town.

   Team A have won 5 out of their 9 games.
   Team B have won 7 out of their 12 games.
   Team C have won 9 out of their 14 games.

   Which team has the best winning record? Justify your answer by calculation.
5) Gordon sowed three different kinds of flower seeds. The results are shown below.
   - Type A produced 42 plants from 60 seeds
   - Type B produced 13 plants from 20 seeds
   - Type C produced 15 plants from 25 seeds.
Which flower seed was most successful?
Justify your answer by calculation.

6) Two drama clubs are to send representatives to a show. The representatives are chosen at random.
   - Club A has 48 members and 9 tickets to use.
   - Club B has 32 members and 7 tickets to use.
In which club does any one person have a better chance of being selected?
Justify your answer by calculation.

7) Three football teams play in the same town.
   - Team A have won 8 out of their 14 games.
   - Team B have won 10 out of their 18 games.
   - Team C have won 11 out of their 20 games.
Which team has the best winning record?
Justify your answer by calculation.

8) Theo sowed three different kinds of flower seeds. The results are shown below.
   - Type A produced 48 plants from 60 seeds
   - Type B produced 35 plants from 45 seeds
   - Type C produced 23 plants from 30 seeds.
Which flower seed was most successful?
Justify your answer by calculation.
9) Two opera clubs are to send representatives to a show. The representatives are chosen at random.

   Club A has 30 members and 8 tickets to use.
   Club B has 40 members and 10 tickets to use.

In which club does any one person have a better chance of being selected?

Justify your answer by calculation.

10) Three rugby teams play in the same town.

   Team A have won 16 out of their 23 games.
   Team B have won 17 out of their 26 games.
   Team C have won 15 out of their 21 games.

Which team has the best winning record?

Justify your answer by calculation.

**Mixed Examples**

**Exercise 2**

1) Everyone should eat 5 portions of fruit or vegetables every day. The first food Harry eats one morning is an apple for breakfast:

   a) What percentage of his recommended daily amount has he had?
   b) If he eats a portion of sweet corn with his lunch and a banana after lunch what percentage of Harry’s recommended daily allowance has he still to eat?

2) A Mars Bar contains \( \frac{1}{5} \) sugar, a Snickers contains \( \frac{11}{50} \) sugar and a Topic contains \( \frac{7}{25} \) sugar. Which bar has the most sugar in it?
3) 3 breakfast cereals each claim to have a low percentage salt content. In a 500g packet of Cornyflakes there are 7.5 grams of salt, a 1kg packet of Crispie Rice has 16 grams of salt and a 200g packet of Sugar Pops has 2.8 grams of salt.
   a) Calculate the percentage of salt in all 3 cereals
   b) Which cereal has the lowest salt content?

4) The recommended daily amount of salt is 6 grams. Sarah’s breakfast had 1.5 grams of salt in it. What percentage of her recommended daily amount has she had?

5) 3 different packets of Cheese and Onion crisps are tested for saturated fat.
   Walkers 30g packet has 3g of saturated fat.
   Golden Wonder 25g packet has 2.6g of saturated fat.
   McCoys 35g packet has 3.4g of saturated fat.
What crisps would be the healthiest option?
You must give a reason for your answer.

6) Mesco’s the supermarket sells healthy choice ready made meals. They have 1.5 grams of fat per 100 grams. What is the percentage of fat in these meals?
   Angela in the school canteen makes her own versions of these meals. These weigh 300 grams and have a fat content of 4 grams.
   Which meal contains the least percentage of fat? Justify your answer by calculation.

7) Before adding milk a 60g portion of All Bran cereal contains 15g of sugar, a 70g portion of Corn Flakes contains 17g of sugar and a 50g portion of Frosties contains 14g of sugar. What would be the healthiest breakfast cereal? You must give a reason for your answer.
8) A 250ml can of Red Bull contains 1ml of caffeine, a 330ml of Coca Cola contains 1.1ml of caffeine and a 500ml can of Diet Irn Bru contains 1.2ml of caffeine. Which of these cans would be the worst to drink if you want to go to sleep soon?

You must give a reason for your answer.

9) John, Peter and James all want to increase their weightlifting. They all train hard and after 2 months John has improved from being able to lift 45kg and can now lift 50kg. Peter could lift 48kg and can now lift 54kg while James could lift 55g and can now lift 61kg.

Which of the 3 boys has improved the most compared to their original weightlifting abilities?

Justify your answer by calculation.

10) We should all drink 8 glasses of water a day. What percentage of your recommended daily amount of water have you drank if you have:

   a) 2 glasses
   b) 4 glasses
   c) 7 glasses

11) Torrison’s the supermarket sells healthy choice ready made meals. They have 0.5 grams of fat per 100 grams.

What is the percentage of fat in these meals?

Jessie in the school canteen makes her own versions of these meals. These weigh 400 grams and have a fat content of 1.8 grams.

Which meal contains the most percentage of fat?

Justify your answer by calculation.