

Decimal fractions - tenths

Decimal fractions of a Set

We are learning to use addition and subtraction to work out decimal fractions of a set

AC

EA

AA

AM

AP

eg. Hattie the Hen eats $\frac{2}{10}$ of a worm and Robbie the Rooster eats $\frac{3}{10}$ of a worm . What fraction of the worm did they eat altogether?

Exercise 1: The birds and the worm

In this exercise Hattie Hen and Robbie Rooster are sharing a worm. Each time they take a bite they eat one tenth ($\frac{1}{10}$) of the worm. Work out how much of the worm has been eaten altogether. Give your answers as decimal fractions (tenths) and decimals.

- 1) Hattie eats $\frac{7}{10}$ and Robbie eats $\frac{1}{10}$. What fraction of the worm did they eat altogether?
- 2) Hattie eats $\frac{2}{10}$ and Robbie eats $\frac{3}{10}$. What fraction of the worm did they eat altogether?
- 3) Hattie eats $\frac{6}{10}$ and Robbie eats $\frac{3}{10}$. What fraction of the worm did they eat altogether?
- 4) Hattie eats $\frac{4}{10}$ and Robbie eats $\frac{5}{10}$. What fraction of the worm did they eat altogether?
- 5) Hattie eats $\frac{1}{10}$ and Robbie eats $\frac{1}{10}$. What fraction of the worm did they eat altogether?
- 6) Hattie eats $\frac{2}{10}$ and Robbie eats $\frac{8}{10}$. What fraction of the worm did they eat altogether?
- 7) Hattie eats $\frac{7}{10}$ and Robbie eats $\frac{3}{10}$. What fraction of the worm did they eat altogether?

Exercise 2: The birds and the worms

In this exercise Hattie Hen and Robbie Rooster are both eating different worms. Each time they take a bite they eat one tenth ($\frac{1}{10}$) of their worm. Work out how much worm has been eaten altogether. Give your answers as decimal fractions (tenths) and decimals.

- 1) Hattie eats $\frac{7}{10}$ and Robbie eats $\frac{5}{10}$. How much worm did they eat altogether?
- 2) Hattie eats $\frac{8}{10}$ and Robbie eats $\frac{7}{10}$. How much worm did they eat altogether?
- 3) Hattie eats $\frac{4}{10}$ and Robbie eats $\frac{7}{10}$. How much worm did they eat altogether?
- 4) Hattie eats $\frac{8}{10}$ and Robbie eats $\frac{6}{10}$. How much worm did they eat altogether?
- 5) Hattie eats $\frac{10}{10}$ and Robbie eats $\frac{8}{10}$. How much worm did they eat altogether?
- 6) Hattie eats $\frac{10}{10}$ and Robbie eats $\frac{10}{10}$. How much worm did they eat altogether?
- 7) Hattie eats $1\frac{1}{10}$ and Robbie eats $\frac{5}{10}$. How much worm did they eat altogether?
- 8) Hattie eats $1\frac{1}{10}$ and Robbie eats $1\frac{7}{10}$. How much worm did they eat altogether?
- 9) Hattie eats $2\frac{4}{10}$ and Robbie eats $3\frac{7}{10}$. How much worm did they eat altogether?
- 10) Hattie eats $3\frac{7}{10}$ and Robbie eats $2\frac{9}{10}$. How much worm did they eat altogether?

Exercise 3: Chocolate Bars

In these questions Tim, Tom and Ted are sharing 20 chocolate bars.

- 1) Tim gets $\frac{1}{10}$ and Tom gets $\frac{3}{10}$ of the bars. What fraction of the bars does Ted get? How many chocolate bars does this mean they get each?
- 2) Tim gets $\frac{4}{10}$ and Tom gets $\frac{5}{10}$. What fraction of the bars does Ted get? How many chocolate bars do they get each?
- 3) Tim gets $\frac{7}{10}$ and Tom gets $\frac{3}{10}$. What fraction of the bars does Ted get? How many chocolate bars do they get each?
- 4) Ted gets $\frac{6}{10}$ and Tom and Tim share the rest equally. What fraction do Tom and Tim get? How many chocolate bars do they get each?
- 5) Tom gets $\frac{1}{10}$ and Tim and Ted share the rest equally. How many chocolate bars do they get each?

Exercise 4: Sharing is good

Gran keeps all her coins in a large jar on the kitchen bench. When Sam and Ashlee visited her on Saturday they counted all the coins. There were 30 ten cent coins, 40 twenty cent coins and 55 fifty cent coins. Gran posed these questions:

- 1) If Sam gets $\frac{7}{10}$ of the ten cent coins and Ashlee gets $\frac{3}{10}$ of the twenty cent coins how many coins do they each receive? Who gets the most money?
- 2) If Ashlee gets 5 fifty cent coins and Sam gets $\frac{1}{10}$ of the rest of the fifty cent coins who gets the most money?
- 3) If Ashlee gets $\frac{6}{10}$ of the twenty cent coins and Sam gets $\frac{9}{10}$ of the ten cent coins how many coins did they get altogether? How much money did they get altogether?
- 4) If Sam gets 8 of the fifty cent coins and Ashlee gets 7 and Gran donates $\frac{3}{10}$ of the fifty cent coins that are left to the SPCA how many fifty cent coins are left in the jar?
- 5) Gran keeps 25 of the fifty cent coins to pay for her milk and newspapers. If she gives $\frac{1}{10}$ of the remaining fifty cent coins, $\frac{2}{10}$ of the twenty cent coins and $\frac{3}{10}$ of the ten cent coins to both Sam and Ashlee, how many coins do they get? How much is this?

Decimal Fractions of a Set

Answers

Exercise 1

1) $\frac{8}{10} = 0.8$

(2) $\frac{5}{10} = 0.5$

(3) $\frac{9}{10} = 0.9$

4) $\frac{9}{10} = 0.9$

(5) $\frac{2}{10} = 0.2$

6) $\frac{10}{10} = 1$

7) $\frac{10}{10} = 1$

Exercise 2

1) $\frac{11}{10} = 1\frac{1}{10} = 1.1$

(2) $\frac{15}{10} = 1\frac{5}{10} = 1.5$

(3) $\frac{12}{10} = 1\frac{2}{10} = 1.2$

4) $\frac{14}{10} = 1\frac{4}{10} = 1.4$

(5) $\frac{18}{10} = 1\frac{8}{10} = 1.8$

(6) $\frac{20}{10} = 2$

7) $1\frac{6}{10} = 1.6$

(8) $2\frac{8}{10} = 2.8$

(9) $6\frac{1}{10} = 6.1$

10) $6\frac{6}{10}$

Exercise 3

1) $\frac{6}{10}$ Tom gets 6, Tim 2, and Ted 12

2) $\frac{1}{10}$ Tom = 6, Tim = 2, Ted = 12

3) $\frac{0}{10}$ Tom = 6, Tim = 14, Ted = 0

4) $\frac{2}{10}$ each. Tom = 4, Tim = 4, Ted = 12

5) Tom = 2, Tim = 9, Ted = 9

Exercise 4

1) Sam = 21 (\$2.10), Ashlee = 12 (\$2.40)

2) Both get the same, Sam = \$2.50, Ashlee = \$2.50.

3) Sam = 27, Ashlee = 24. Total coins = 51. Money = \$7.50

4) $40 - 12 = 28$ coins

5) 3 fifty cent coins, 8 twenty cent coins, 9 ten cent coins. Total coins = 20. Money = \$4