



KING EDWARD VI  
HANDSWORTH GRAMMAR  
SCHOOL FOR BOYS



KING EDWARD VI  
ACADEMY TRUST  
BIRMINGHAM

# Year 7

## 2025 Mathematics 2026

### Unit 3 Booklet

HGS Maths



Tasks



Dr Frost Course



Name: \_\_\_\_\_

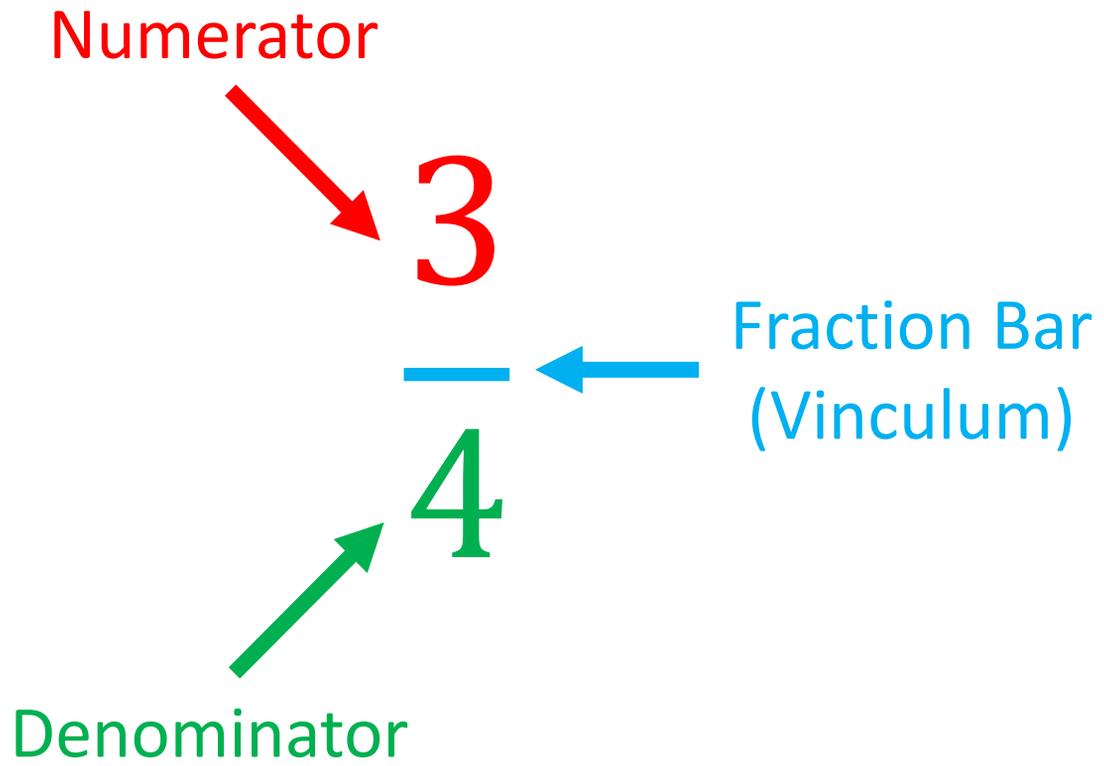
Class: \_\_\_\_\_

# Contents

- 1**    [Fractions](#)
  - 1.1**   [Equivalent Fractions](#)
  - 1.2**   [Simplifying Fractions](#)
  - 1.3**   [Improper Fractions and Mixed Numbers](#)
  - 1.4**   [Adding and Subtracting Fractions](#)
  - 1.5**   [Multiplying Fractions](#)
  - 1.6**   [Squaring and Square Rooting Fractions](#)
  - 1.7**   [Reciprocals](#)
  - 1.8**   [Dividing Fractions](#)
  - 1.9**   [Mixed Operations](#)
  - 1.10**  [Fractions of Amounts](#)
  - 1.11**  [Increasing or Decreasing by a Fraction](#)
  - 1.12**  [Reverse Fractions of Amounts](#)
  
- 2**    [Decimals](#)
  - 2.1**   [Adding Decimals](#)
  - 2.2**   [Subtracting Decimals](#)
  - 2.3**   [Related Calculations](#)
  - 2.4**   [Multiplying Decimals](#)
  - 2.5**   [Dividing Decimals](#)
  
- 3**    [Solving Linear Equations 1](#)
  - 3.1**   [Terminology](#)
  - 3.2**   [One Step](#)
  - 3.3**   [Forming Expressions](#)
  - 3.4**   [Two Steps](#)
  - 3.5**   [Fractions](#)

# 1 Fractions

# Notation



# 1.1 Equivalent Fractions

## Worked Example

Multiply these fractions so they have a denominator of 8:

a)  $\frac{1}{2}$

b)  $\frac{3}{4}$

c)  $\frac{8}{16}$

## Your Turn

Multiply these fractions so they have a denominator of 12:

a)  $\frac{1}{2}$

b)  $\frac{3}{4}$

c)  $\frac{9}{36}$

## 1.2 Simplifying Fractions

## Worked Example

Simplify:

a)  $\frac{6}{20}$

b)  $\frac{12}{20}$

## Your Turn

Simplify:

a)  $\frac{6}{18}$

b)  $\frac{12}{18}$

## Worked Example

Simplify these fractions:

a)  $\frac{0.4}{0.7}$

b)  $\frac{0.4}{1.2}$

c)  $\frac{0.44}{1}$

## Your Turn

Simplify these fractions:

a)  $\frac{0.5}{0.6}$

b)  $\frac{0.6}{2.4}$

c)  $\frac{0.36}{2}$

## Worked Example

Express 50p as a fraction of £4.  
Give your answer in its simplest form.

## Your Turn

Express 20p as a fraction of £10.  
Give your answer in its simplest form.

## Worked Example

- a) There are 12 red counters, in a box with 30 counters in total. Write this proportion as a fraction in its simplest form.
- b) There are 53 people at a party. 46 of them are adults. What fraction of the people are **not** adults?

## Your Turn

- a) There are 21 yellow counters, in a box with 36 counters in total. Write this proportion as a fraction in its simplest form.
- b) There are 49 people at a party. 42 of them are children. What fraction of the people are **not** children?

## 1.3 Improper Fractions and Mixed Numbers

## Worked Example

a) Convert  $\frac{6}{5}$  into a mixed number.

b) Convert  $2\frac{1}{3}$  into an improper fraction.

## Your Turn

a) Convert  $\frac{13}{5}$  into a mixed number.

b) Convert  $4\frac{1}{3}$  into an improper fraction.

## 1.4 Adding and Subtracting Fractions

## Worked Example

Calculate:

a)  $\frac{2}{5} + \frac{1}{3}$

b)  $\frac{2}{5} - \frac{1}{3}$

c)  $1 - \frac{1}{3}$

## Your Turn

Calculate:

a)  $\frac{2}{3} + \frac{1}{5}$

b)  $\frac{2}{3} - \frac{1}{5}$

c)  $1 - \frac{1}{5}$

# Fill in the Gaps

Question	With a Common Denominator	Unsimplified Answer	Simplified Answer (where possible)
$\frac{1}{3} + \frac{1}{6}$	$\frac{2}{6} + \frac{1}{6}$	$\frac{3}{6}$	$\frac{\square}{\square}$
$\frac{1}{4} + \frac{2}{3}$	$\frac{3}{12} + \frac{\square}{12}$	$\frac{\square}{12}$	$\frac{\square}{12}$
$\frac{2}{5} + \frac{1}{4}$	$\frac{\square}{20} + \frac{\square}{20}$	$\frac{\square}{20}$	$\frac{\square}{20}$
$\frac{5}{6} - \frac{1}{2}$	$\frac{\square}{6} - \frac{\square}{6}$	$\frac{\square}{6}$	$\frac{\square}{\square}$
$\frac{7}{8} - \frac{2}{3}$	$\frac{21}{\square} - \frac{16}{\square}$	$\frac{\square}{\square}$	$\frac{\square}{\square}$
$\frac{7}{9} - \frac{3}{4}$	$\frac{\square}{\square} - \frac{\square}{\square}$	$\frac{\square}{\square}$	$\frac{\square}{\square}$
$\frac{\square}{\square} + \frac{\square}{\square}$	$\frac{\square}{35} + \frac{14}{35}$	$\frac{24}{35}$	$\frac{24}{35}$
$\frac{\square}{\square} - \frac{\square}{\square}$	$\frac{\square}{\square} - \frac{5}{\square}$	$\frac{6}{20}$	$\frac{\square}{\square}$
$\frac{\square}{\square} + \frac{\square}{\square}$	$\frac{\square}{\square} + \frac{7}{24}$	$\frac{\square}{\square}$	$\frac{2}{3}$
$\frac{13}{15} - \frac{\square}{\square}$	$\frac{26}{\square} - \frac{\square}{\square}$	$\frac{\square}{\square}$	$\frac{7}{10}$
$\frac{3}{10} + \frac{\square}{\square} + \frac{\square}{\square}$	$\frac{\square}{\square} + \frac{5}{20} + \frac{\square}{\square}$	$\frac{\square}{\square}$	$\frac{9}{10}$
$\frac{\square}{\square} + \frac{\square}{\square} - \frac{\square}{\square}$	$\frac{5}{\square} + \frac{\square}{\square} - \frac{8}{\square}$	$\frac{\square}{36}$	$\frac{2}{3}$

## Worked Example

Raphaël and Laure bought an extra large pizza between them.

Raphaël eats  $\frac{5}{9}$  of the pizza.

Laure eats  $\frac{1}{6}$  of the pizza.

Calculate how much of the pizza is left.

## Your Turn

A basic cookie dough mix requires butter, sugar and flour.

$\frac{3}{8}$  of the mix is butter.

$\frac{2}{7}$  of the mix is sugar.

Calculate how much of the mix is flour.

## Worked Example

Calculate:

a)  $2\frac{1}{2} + 3\frac{2}{5}$

b)  $2\frac{1}{2} - 1\frac{2}{5}$

## Your Turn

Calculate:

a)  $2\frac{1}{3} + 3\frac{2}{5}$

b)  $2\frac{1}{3} - 1\frac{2}{5}$

# Fill in the Gaps

Question	Write as Improper Fractions	Convert to Common Denominator	Answer as Improper Fraction	Answer as Mixed Number
$1\frac{1}{3} + 2\frac{1}{2}$	$4\frac{5}{3} + \frac{5}{2}$	$\frac{8}{6} + \frac{15}{6}$	$\frac{23}{6}$	
$3\frac{2}{3} + 1\frac{1}{4}$	$\frac{11}{3} + \frac{5}{4}$	$\frac{44}{12} + \frac{15}{12}$		
$4\frac{1}{2} - 3\frac{2}{5}$	$\frac{9}{2} - \frac{17}{5}$	$\frac{\square}{10} - \frac{\square}{10}$		
$2\frac{3}{4} + 1\frac{5}{6}$	$\frac{11}{4} + \frac{11}{6}$			
$5\frac{1}{3} - 3\frac{2}{5}$				
$4\frac{3}{4} - 2\frac{5}{7}$				
$2\frac{8}{9} + 3\frac{3}{5}$				
$2\frac{13}{20} - \frac{7}{8}$				
	$\frac{7}{4} + \frac{12}{5}$			
	$\frac{\square}{9} - \frac{\square}{4}$	$\frac{100}{36} - \frac{45}{36}$		
	$\frac{3}{2} + \frac{\square}{\square}$		$\frac{29}{10}$	
$\square\frac{\square}{\square} - 2\frac{1}{6}$				$3\frac{7}{30}$

## 1.5 Multiplying Fractions

## Worked Example

Calculate:

a)  $\frac{2}{3} \times \frac{1}{6}$

b)  $2 \times \frac{1}{6}$

## Your Turn

Calculate:

a)  $\frac{2}{3} \times \frac{5}{6}$

b)  $\frac{5}{6} \times 2$

## Worked Example

Calculate:

a)  $1\frac{1}{3} \times 4\frac{2}{5}$

b)  $1\frac{1}{3} \times 2$

## Your Turn

Calculate:

a)  $4\frac{1}{3} \times 1\frac{2}{5}$

b)  $3 \times 1\frac{2}{5}$

# Fill in the Gaps

Question	Write as Improper Fractions	Multiply Numerators/ Denominators	Simplify (where possible)	Answer as Mixed Number
$1\frac{2}{3} \times 1\frac{1}{2}$	$\frac{5}{3} \times \frac{3}{2}$	$\frac{15}{6}$	$\frac{5}{2}$	
$2\frac{2}{5} \times 1\frac{1}{3}$	$\frac{12}{5} \times \frac{4}{3}$	$\frac{48}{15}$		
$3\frac{1}{2} \times 3\frac{1}{3}$	$\frac{7}{2} \times \frac{10}{3}$			
$1\frac{3}{4} \times 2\frac{5}{7}$				
$2\frac{4}{5} \times \frac{6}{7}$				
$2\frac{3}{10} \times 2\frac{2}{9}$				
$5\frac{2}{3} \times 1\frac{3}{4}$				
$3\frac{7}{10} \times 1\frac{3}{7}$				
$5\frac{1}{2} \times 2\frac{3}{4}$				
	$\frac{9}{5} \times \frac{10}{3}$			
	$\frac{\square}{\square} \times \frac{5}{3}$	$\frac{75}{12}$		
$\square \frac{\square}{\square} \times 2\frac{2}{5}$		$\frac{132}{20}$		

## Worked Example

Calculate:

a)  $\frac{2}{5} \times \frac{25}{18}$

b)  $4\frac{1}{5} \times 5\frac{5}{7}$

## Your Turn

Calculate:

a)  $\frac{2}{5} \times \frac{25}{16}$

b)  $4\frac{1}{5} \times 6\frac{3}{7}$

## Worked Example

$\frac{9}{10}$  of the students in a class are female.  $\frac{2}{5}$  of the female students play chess. Calculate the fraction of the class who are female chess players. Give your answer in its simplest form.

## Your Turn

$\frac{3}{7}$  of a tennis club are men.  $\frac{6}{11}$  of the men in the club are right-handed. Calculate the fraction of the club who are right-handed men. Give your answer in its simplest form.

## Worked Example

Viraj has 4 cats. Each cat eats  $\frac{6}{11}$  of a tin of cat food a day. He buys 13 tins of cat food. Determine whether he has bought enough to feed his 4 cats for 5 days.

## Your Turn

Mia has 3 cats. Each cat eats  $\frac{9}{10}$  of a tin of cat food a day. They buy 15 tins of cat food. Determine whether they have bought enough to feed their 3 cats for 5 days.

## 1.6 Squaring and Square Rooting Fractions

## Worked Example

Calculate:

a)  $\left(\frac{5}{8}\right)^2$

b)  $\sqrt{\frac{16}{81}}$

c)  $\left(-\frac{4}{5}\right)^2$

## Your Turn

Calculate:

a)  $\left(\frac{3}{7}\right)^2$

b)  $\sqrt{\frac{49}{81}}$

c)  $\left(-\frac{2}{3}\right)^3$

## 1.7 Reciprocals

## Worked Example

Write the reciprocals of:

a) 6

b)  $\frac{1}{6}$

c)  $\frac{5}{6}$

d)  $1\frac{5}{6}$

e) 1.2

## Your Turn

Write the reciprocals of:

a) 7

b)  $\frac{1}{7}$

c)  $\frac{2}{7}$

d)  $1\frac{2}{7}$

e) 3.5

## 1.8 Dividing Fractions

## Worked Example

Calculate:

a)  $\frac{1}{5} \div \frac{1}{3}$

b)  $\frac{6}{5} \div \frac{2}{3}$

c)  $\frac{1}{5} \div 2$

d)  $2 \div \frac{1}{5}$

## Your Turn

Calculate:

a)  $\frac{1}{5} \div \frac{2}{3}$

b)  $\frac{1}{5} \div \frac{10}{3}$

c)  $\frac{2}{5} \div 2$

d)  $2 \div \frac{2}{5}$

# Fill in the Gaps

Division	Equivalent Multiplication	Unsimplified Answer	Simplified Answer (where possible)
$\frac{2}{3} \div 6$	$\frac{2}{3} \times \frac{1}{6}$	$\frac{2}{18}$	<input type="text"/> <input type="text"/>
$\frac{2}{5} \div 4$	$\frac{2}{5} \times \frac{1}{4}$	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
$\frac{5}{8} \div 10$	<input type="text"/> <input type="text"/> $\times$ <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
$\frac{7}{10} \div \frac{3}{4}$	$\frac{7}{10} \times \frac{4}{3}$	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
$\frac{6}{11} \div \frac{2}{3}$	<input type="text"/> <input type="text"/> $\times$ <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
$\frac{1}{10} \div \frac{4}{5}$	<input type="text"/> <input type="text"/> $\times$ <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
$\frac{11}{16} \div \frac{3}{4}$	<input type="text"/> <input type="text"/> $\times$ <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/> <input type="text"/> $\div$ <input type="text"/> <input type="text"/>	$\frac{2}{9} \times \frac{6}{5}$	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
<input type="text"/> <input type="text"/> $\div$ <input type="text"/> <input type="text"/>	$\frac{3}{8} \times$ <input type="text"/> <input type="text"/>	$\frac{12}{24}$	<input type="text"/> <input type="text"/>
<input type="text"/> <input type="text"/> $\div$ $\frac{2}{5}$	<input type="text"/> <input type="text"/> $\times$ <input type="text"/> <input type="text"/>	$\frac{15}{20}$	<input type="text"/> <input type="text"/>
<input type="text"/> <input type="text"/> $\div$ <input type="text"/> <input type="text"/>	$\frac{5}{12} \times$ <input type="text"/> <input type="text"/>	$\frac{10}{12}$	<input type="text"/> <input type="text"/>
<input type="text"/> <input type="text"/> $\div$ <input type="text"/>	<input type="text"/> <input type="text"/> $\times$ $\frac{1}{3}$	<input type="text"/> <input type="text"/>	$\frac{3}{10}$

## Worked Example

Calculate:

a)  $2\frac{2}{3} \div \frac{1}{5}$

b)  $2\frac{2}{3} \div 5$

## Your Turn

Calculate:

a)  $2\frac{2}{3} \div \frac{2}{5}$

b)  $2 \div 2\frac{2}{3}$

# Fill in the Gaps

Question	Write as Improper Fractions	Write as a Multiplication	Multiply and Simplify (where possible)	Answer as Mixed Number
$2\frac{2}{3} \div 1\frac{1}{2}$	$\frac{8}{3} \div \frac{3}{2}$	$\frac{8}{3} \times \frac{2}{3}$	$\frac{16}{9}$	
$5\frac{1}{2} \div 1\frac{3}{4}$	$\frac{11}{2} \div \frac{7}{4}$	$\frac{11}{2} \times \frac{4}{7}$	$\frac{44}{14} = \begin{array}{c} \square \\ \square \end{array}$	
$4\frac{3}{5} \div 2\frac{2}{3}$	$\frac{23}{5} \div \frac{8}{3}$	$\frac{23}{5} \times \frac{3}{8}$		
$7\frac{2}{3} \div 1\frac{1}{6}$	$\frac{23}{3} \div \frac{7}{6}$			
$3\frac{7}{8} \div \frac{3}{4}$				
$1\frac{4}{5} \div 2\frac{2}{3}$				
$4\frac{1}{6} \div 1\frac{5}{12}$				
$3\frac{3}{10} \div 1\frac{4}{5}$				
$5\frac{1}{2} \div 3\frac{2}{3}$				
	$\frac{19}{6} \div \frac{7}{5}$			
		$\frac{23}{9} \times \frac{3}{7}$		
$4\frac{1}{2} \div \begin{array}{c} \square \\ \square \end{array}$				$1\frac{7}{20}$

## Worked Example

Meriem has  $3\frac{3}{5}$  tins of cat food.

Each day their cat eats  $\frac{9}{10}$  of a tin of food. Find how many days until the food runs out.

## Your Turn

Lucas has  $2\frac{2}{3}$  boxes of fish food.

Each week his fish eats  $\frac{1}{6}$  of a box of food. Find how many weeks until the food runs out.

## 1.9 Mixed Operations

## Worked Example

a) Calculate  $\frac{5}{7} + \frac{5}{3} \times \frac{3}{2}$

Give your answer as an improper fraction in its simplest form.

b) Evaluate  $\frac{1}{2} \left( 2\frac{1}{3} + \frac{4}{5} \right)$

Give your answer as a mixed number in its simplest form.

## Your Turn

a) Calculate  $\frac{3}{4} - \frac{3}{2} \times \frac{2}{5}$

Give your answer in its simplest form.

b) Evaluate  $\frac{1}{2} \left( 1\frac{5}{7} - \frac{3}{5} \right)$

Give your answer in its simplest form.

## Worked Example

a) Calculate

$$\frac{\frac{2}{3} + \frac{11}{15}}{\frac{5}{9}}$$

Give your answer as an improper fraction in its simplest form.

b) Calculate

$$\frac{\frac{2}{5} \times \frac{1}{3}}{\frac{3}{10}}$$

Give your answer in its simplest form.

## Your Turn

a) Calculate

$$\frac{\frac{4}{15}}{\frac{2}{5} + \frac{9}{10}}$$

Give your answer as an improper fraction in its simplest form.

b) Calculate

$$\frac{\frac{7}{10} \times \frac{2}{3}}{\frac{7}{9}}$$

Give your answer in its simplest form.

## 1.10 Fractions of Amounts

## Worked Example

Calculate:

a)  $\frac{1}{4}$  of 24

b)  $\frac{7}{4}$  of 24

## Your Turn

Calculate:

a)  $\frac{1}{3}$  of 24

b)  $\frac{5}{3}$  of 24

## 1.11 Increasing or Decreasing by a Fraction

## Worked Example

a) Increase 60 by  $\frac{1}{5}$

b) Decrease 100 by  $\frac{1}{5}$

## Your Turn

a) Increase 60 by  $\frac{4}{5}$

b) Decrease 200 by  $\frac{3}{5}$

## 1.12 Reverse Fractions of Amounts

## Worked Example

Find the value of  $x$ :

a)  $\frac{1}{5}$  of  $x$  is 12

b)  $\frac{6}{5}$  of  $x$  is 12

## Your Turn

Find the value of  $x$ :

a)  $\frac{1}{4}$  of  $x$  is 15

b)  $\frac{5}{4}$  of  $x$  is 15

## Worked Example

a)  $\frac{2}{3}$  of an amount is 28  
What is the total amount?

b)  $\frac{4}{3}$  of an amount is 28  
What is the total amount?

## Your Turn

a)  $\frac{4}{5}$  of an amount is 28  
What is the total amount?

b)  $\frac{7}{3}$  of an amount is 28  
What is the total amount?

## Worked Example

One ninth of a number is 40.  
What is one quarter of the original?

## Your Turn

One eighth of a number is 30.  
What is one fifth of the original?

## Worked Example

- a) The price of a jacket is decreased by  $\frac{1}{7}$ . The new price is £48.00. Work out the original price.
- b) The price of a laptop is increased by  $\frac{3}{7}$ . The new price is £980.00. Work out the original price.

## Your Turn

- a) The price of a pair of shoes is decreased by  $\frac{2}{7}$ . The new price is £45.00. Work out the original price.
- b) The price of a television is increased by  $\frac{1}{4}$ . The new price is £390.00. Work out the original price.

# 2 Decimals

## 2.1 Adding Decimals

## Worked Example

Work out:  
 $481.4 + 35.23$

## Your Turn

Work out:  
 $369.5 + 47.68$

## 2.2 Subtracting Decimals

## Worked Example

Work out:  
 $184.3 - 40.66$

## Your Turn

Work out:  
 $145.2 - 43.46$

## Worked Example

Work out:

$$4.707 - 1.175 + 32.48$$

## Your Turn

Work out:

$$239.6 + 0.978 - 196.9$$

## 2.3 Related Calculations

## Worked Example

$$93 \times 76 = 7068$$

a) Calculate  $9.3 \times 7.6$

b) Calculate  $0.93 \times 7.6$

## Your Turn

$$26 \times 89 = 2314$$

a) Calculate  $2.6 \times 89$

b) Calculate  $2.6 \times 0.89$

## Worked Example

a) Given that  $72 \div 6 = 12$   
Work out  $7.2 \div 6$

b) Given that  $23 \times 19 = 437$   
Work out  $437 \div 0.23$

## Your Turn

a) Given that  $82 \div 41 = 2$   
Work out  $82 \div 0.41$

b) Given that  $19 \times 29 = 551$   
Work out  $55.1 \div 19$

## 2.4 Multiplying Decimals

## Worked Example

Work out  $50.6 \times 0.001$

## Your Turn

Work out  $33.9 \times 0.0001$

## Worked Example

Work out:

a)  $2.724 \times 4$

b)  $386.6 \times 2.09$

## Your Turn

Work out:

a)  $1.745 \times 7$

b)  $379.6 \times 4.23$

## 2.5 Dividing Decimals

## Worked Example

Work out:

a)  $50.6 \div 0.001$

b)  $0.9 \div 0.003$

## Your Turn

Work out:

a)  $33.9 \div 0.0001$

b)  $0.06 \div 0.002$

## Worked Example

Work out:  
 $1246.24 \div 8$

## Your Turn

Work out:  
 $1197.21 \div 7$

# 3 Solving Linear Equations

## 3.1 Terminology

- An **expression** is a collection of letters and numbers with no equals sign, for example  $3x + 1$
- An **equation** contains an equals sign and an unknown letter to be solved, for example  $3x + 1 = 10$
- A **formula** is a relationship between two or more letters, and it contains an equals sign, for example  $A = bh$
- An **identity** is an equation that is always true, no matter what values are substituted, for example  $2x + 3x = 5x$  (use  $\equiv$ )

## Worked Example

- a) Write down the value of the constant in the expression

$$4b + 3y + 2c + 22$$

- b) Determine whether

$V = \frac{lwh}{3}$  is an equation, an expression or a formula.

## Your Turn

- a) Write down the number of terms in the expression

$$6z + 3x + 3b + 6$$

- b) Determine whether

$4a + 7a^2 = 5$  is an equation, an expression or a formula.

## 3.2 One Step

## Worked Example

Solve the following equations:

a)  $x + 3.2 = 8.1$

b)  $3.2 + x = 8.1$

c)  $8.1 = x + 3.2$

## Your Turn

Solve the following equations:

a)  $x + 6.5 = 11.1$

b)  $6.5 + x = 12.1$

c)  $11.1 = 7.5 + x$

## Worked Example

Solve the following equations:

a)  $x - 3.9 = 8.7$

b)  $3.9 - x = 8.7$

## Your Turn

Solve the following equations:

a)  $x - 6.6 = 11.2$

b)  $6.6 - x = 11.2$

## Worked Example

Solve the following equations:

a)  $2.3x = 12.88$

b)  $\frac{x}{2.1} = 8.5$

## Your Turn

Solve the following equations:

a)  $3.1x = 19.22$

b)  $\frac{x}{6.4} = 4.2$

## 3.3 Forming Expressions

# Forming Expressions

Form the following expressions starting from  $x$ :

$$4x - 5$$

$$5 - 4x$$

$$\frac{x}{4} - 5$$

$$\frac{x - 5}{4}$$

$$4(x - 5)$$

## 3.4 Two Steps

## Worked Example

Solve the following equations:

a)  $4x - 17 = 43$

b)  $17 + 4x = 43$

## Your Turn

Solve the following equations:

a)  $6x - 27 = 53$

b)  $27 + 6x = 43$

## Worked Example

Solve the following equations:

a)  $17 - 4x = 43$

b)  $-17 - 4x = 43$

## Your Turn

Solve the following equations:

a)  $27 - 6x = 53$

b)  $-27 - 6x = 53$

## 3.5 Fractions

## Worked Example

Solve the following equations:

a)  $\frac{x}{3} + 12 = 49$

b)  $\frac{x+12}{3} = 49$

## Your Turn

Solve the following equations:

a)  $\frac{x-12}{6} = 49$

b)  $\frac{x}{6} - 12 = 49$

## Worked Example

Solve the following equations:

a)  $\frac{1}{6}x - 4 = 5$

b)  $\frac{1}{3}x + 4 = 2$

c)  $8 - \frac{1}{2}x = 7$

## Your Turn

Solve the following equations:

a)  $\frac{1}{4}x - 2 = 10$

b)  $\frac{1}{4}x + 12 = 5$

c)  $9 - \frac{1}{3}x = 6$

## Worked Example

Solve the following equations:

a)  $\frac{2x}{3} + 12 = 49$

b)  $\frac{2x+12}{3} = 49$

## Your Turn

Solve the following equations:

a)  $\frac{5x-12}{6} = 49$

b)  $\frac{5x}{6} - 12 = 49$