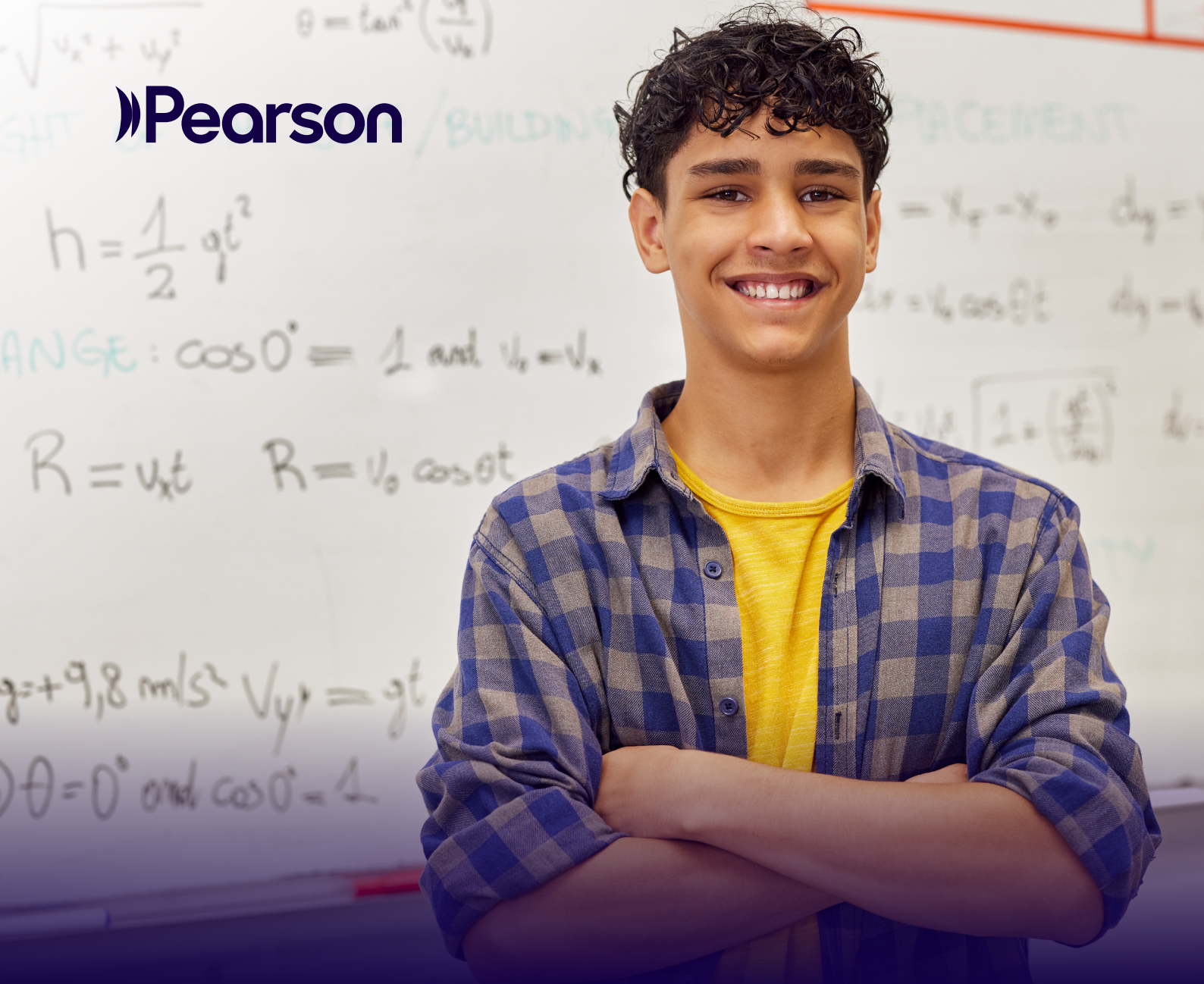




Pearson Mathematics 7–10/10A

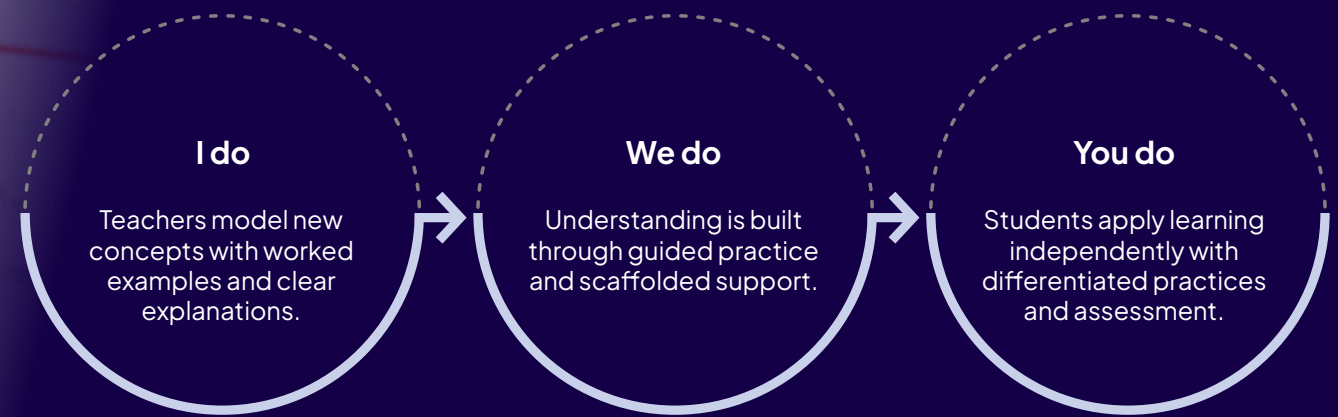
Evidence-based teaching without the workload

Supporting you to reduce maths anxiety, build student confidence and create the conditions for improved learning outcomes.

- Support explicit teaching with ready-to-use lessons, practice, and assessment
- Build student confidence with a structured, low-cognitive-load approach
- Reduce planning time with connected print and digital resources
- Track progress with integrated assessment and reporting

This gradual release approach helps students build confidence, reduce overwhelm and develop the skills to become independent learners.

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Teaching programs, curriculum mapping, and ready-made topic tests support confident planning and delivery.

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Teach

Topic

map

topic to

planning

Sample scope and sequence

TERM 1

TOPIC 1: NUMBER PROPERTIES

Content description:
 GC2/0-2/10 describe the relationship between number forms and space rules, and use aspects of numbers and space rules to explain space numbers in everyday contexts to explain other groups of 10, with an emphasis of prime numbers using multiplication and division.

The student capability to:
 1. Explain concepts of 10 and 100.

Learning objectives:

- 1. Substitution facts
- 2. Multiplication facts (table)
- 3. Division facts
- 4. Naming of multiplication
- 5. Multiplication and division with 1 and 10
- 6. Multiplication and division by powers of 10

Assessment items:

- 1. Order of operations
- 2. Rationale thinking
- 3. Prime numbers and multiplication and division operations
- 4. Prime, composite and square numbers
- 5. Factors and multiples
- 6. Rationale thinking

Understand and calculate squares and square roots

1.1

Learning intention: To understand and calculate squares and square roots

Success criteria:

- SC1: I can identify square numbers.
- SC2: I can determine the square root of a square number.
- SC3: I can place the square root of any number between its two closest natural number
- SC4: I can apply square roots and square roots to life situations.

Lesson warm-up:

Is 9 a square?

On a grid paper, draw a square that has an area of 15 cm^2 . You should only fill squares, is this possible? Explain why or why not.

SC1: I can identify square numbers

A square number is formed by multiplying a whole number by itself. The shorthand symbol for this is a superscript 2.

For example: $1^2 = 1$, $2^2 = 4$, $3^2 = 9$, $4^2 = 16$, $5^2 = 25$, $6^2 = 36$, $7^2 = 49$, $8^2 = 64$, $9^2 = 81$, $10^2 = 100$, $11^2 = 121$, $12^2 = 144$, $13^2 = 169$, $14^2 = 196$, $15^2 = 225$, $16^2 = 256$, $17^2 = 289$, $18^2 = 324$, $19^2 = 361$, $20^2 = 400$

Square numbers can also be represented as the area of squares.

Understand and calculate squares and square roots

Lesson 1.7 Completed

Introduction

- SC 1: I can identify square numbers
- SC 2: I can determine the square root of a square number
- SC 3: I can place the square root of any number between its two closest natural numbers
- SC 4: I can apply squares and square roots to real-life situations

Lesson review

Content descriptions:

VC2MAT01 recognise and use variables to represent everyday formulas algebraically and substitute values into to determine an unknown

VC2MAT02 apply the associative, commutative and distributive laws to aid mental and written computation, and to algebraic expressions using constants, variables, operations and brackets

The Victorian Curriculum F-10 content elements are VC4AA

Person Diagnostic quizzes

- ☐ Relational thinking
- ☐ Values for letters
- ☐ Letters for numbers or objects
- ☐ Writing expressions involving multiplication and subtraction
- ☐ Formulating algebraic expressions

Home > Search > Quizzes > Relational thinking > **Quiz preview**

☐ Formatted time to table... for all years & A, B, 7, 8...
 ☐ Questions >

Choose the correct number for each one.

$7 + 9 = 16$	$339 - 339 = 0$	Question 1
$340 - \left(\frac{123}{123}\right) = 343 + 125$	$12.9 + 1.9 = 14.8$	Question 2
$10 - 4 = \left(\frac{123}{123}\right) + 6$	$339 - 339 = 339$	Question 3
$0.04 - \left(\frac{123}{123}\right) = 487 - 339$	$12.9 - 3.2 = 9.7$	

Quickly identify misconceptions and generate targeted activities to address gaps and support progress.

Understand and identify common factors and multiples

Learning objectives

- Understand and identify common factors and multiples

1.4

Find the highest common factor (HCF)

Related examples: [Work it out 1](#) [Check your understanding](#)

Find the highest common factor (HCF)

Question 1

Calculate the highest common factor (HCF) of the following numbers.

The number 21	The number 35	The number 49

←
→
↶
↷
↵

Understand and identify common factors and multiples

Learning objectives

- Understand and identify common factors and multiples

What is the meaning?

Factor: Numbers a division and examples of the following:

- Multiple
- Factor
- Common factor
- Common multiple

Use examples to help you find definitions.

Use multiplication of:

- 24 factors of 24
- 35 factors of 35
- 42 factors of 42

Use common multiples of 24 and 35

MCQ 1 Calculate the highest common factor (HCF) of a pair of numbers

Enter an answer using a multiple choice key and another number. A correct answer is indicated and incorrect answers are shown as incorrect.

The HCF of 108 and 144 is the largest common factor that divides both numbers to leave no remainder.

For example:

- 108 ÷ 12 = 9, 144 ÷ 12 = 12
- 108 ÷ 27 = 4, 144 ÷ 27 = 5.333

The common factors are 1, 2, 3, 4, 6, 9, 12

The HCF is 12

Regular checks for understanding provide immediate feedback and inform next steps in teaching.

Clear learning goals and success criteria show students what they need to know and guide structured, manageable lessons.

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[illegible]

Create custom digital tests from thousands of questions.

Create custom digital tests from thousands of questions.

Practice

SC1 I can calculate circumference given the radius or diameter.

- Calculate the circumference of each circle, correct to 2 decimal places.

(a)



(b)



(c)


- Calculate the circumference of each circle, correct to 2 decimal places.

(a)



(b)




- Calculate the diameter d and circumference C of each circle, correct to 2 decimal places, following the grid.

Learning intention: To be able to solve length problems involving circles.

Success criteria:

SC 1: I can calculate circumference given the radius or diameter.

SC 2: I can determine the length of a radius and diameter from a circumference.

SC 3: I can calculate the perimeter of shapes involving circles.

SC 1: Q1, 2, 3, 4 and 5 SC 2: Q1, 2, 3, 4 and 5 SC 3: Q1, 2 and 3	SC 1: Q1, 2, 3, 4 and 5 SC 2: Q1, 2, 3, 4 and 5 SC 3: Q1, 2, 3, 4 and 5	SC 1: Q1a, 2a, 3a, 4a and 5 SC 2: Q3, 4 and 5 SC 3: Q1, 2, 3, 4, 5 and 6
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Editable topic tests aligned to lessons help measure progress without additional preparation.

Editable topic tests aligned to lessons help measure progress without additional preparation.

Clear reporting helps you track progress, identify gaps, and adjust teaching with confidence.

Clear reporting helps you track progress, identify gaps, and adjust teaching with confidence.

Circles (features and circumference)

SQ: I can determine the length of a radius and diameter from a circumference

Worked example: Given the circumference, determine the length of the radius and diameter

A circle has a perimeter of the diameter, convert to decimal places, of a circle with a circumference of 32 cm.

Thinking	Working
Write the given information using variables.	
Choose the circumference formula that relates the given information (diameter or radius).	
Substitute the values into the formula and calculate the result.	
Round the result to the required number of decimal places.	

- 1 For circles with the following circumferences, use the formula $C = \pi d$ to:
 - determine the length of the diameter if

(a) their halves part (B) to determine the length of the radius r.
 - Round your answers to 2 decimal places.

(a) C = 1.5 cm
(b) C = 15 cm
(c) C = 150 cm

Example

See it as a video

Check your understanding

Watch a worked example: Determine the length of the unknown diameter of a circle, given its circumference

< Back to Lesson | Home | Forward >

Worked Example: A circular garden has a circumference of 32 m. Find the diameter of the garden.

Given: Circumference $C = 32$ m
 Required: Diameter $d = ?$ m

Formula: $C = \pi d$

Calculation:

$$\begin{aligned} C &= \pi d \\ 32 &= \pi d \\ \frac{32}{\pi} &= \frac{\pi d}{\pi} \end{aligned}$$

On the go: Solving both sides of the equation for x

Step-by-step examples and video walkthroughs model expert thinking and build confidence with new concepts.

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Scaffolded prompts and differentiated practice create multiple entry points to support all learners.

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In-eBook tools provide instant feedback and explanations using trusted, curriculum-aligned content.

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The screenshot displays the eTextbook interface. On the left, a sidebar contains navigation icons and a list of exercises under the heading "Exercises: Main Class". The exercises are numbered 1 through 5, each with a brief description of the problem. The main content area shows a detailed explanation for exercise 1.3, titled "Represent numbers in prime factor form". The explanation includes a definition of prime numbers, a list of prime numbers up to 100, and a step-by-step process for finding the prime factorization of a number. A blue callout box with the text "I need something explained" and an "EM" icon is overlaid on the right side of the page. Below the callout, there is a section titled "What topic or term from your eTextbook would you like explained?" and a button labeled "Explain". At the bottom, there are two buttons: "What are prime factors?" and "How does a factor tree work?", with a link to "Explain the Sieve of Eratosthenes" below them.

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