

Unit 13

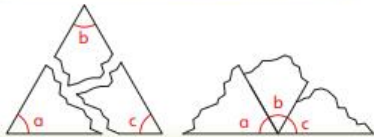
Geometry – properties of shapes



In this unit we will ...

- ✦ Measure angles and draw shapes accurately using a ruler and protractor
- ✦ Calculate unknown angles in shapes and on lines using angle facts
- ✦ Explore properties of polygons and circles
- ✦ Identify 3D shapes from 2D representations
- ✦ Draw multiple nets for a 3D shape

How can you use your knowledge of angles on a straight line to work out what the interior angles of a triangle add up to?



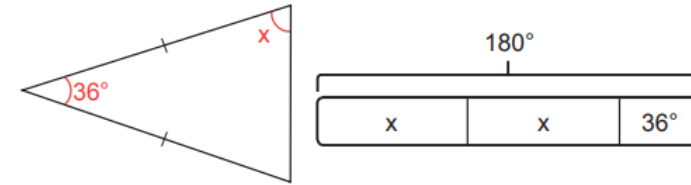
KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit.

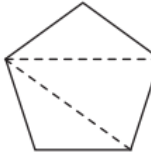
- degrees, measurement, length
- angle, obtuse, acute, reflex, right angle, interior
- protractor, baseline, crosshairs, scale
- vertex, edge, face
- parallel
- properties
- triangle, isosceles, equilateral, scalene
- regular, polygon, quadrilateral, parallelogram, kite, rhombus, trapezium
- diameter, radius, circumference, concentric, centre
- perimeter
- pyramid, tetrahedron, cylinder, prism, cuboid, cube

STRUCTURES AND REPRESENTATIONS

Bar model: Allows children to translate problems into calculations and interpret the correct operation.



Polygons: Divide polygons into triangles so children can see how the sum of the interior angles of a polygon is always a multiple of 180° . This can help them to calculate the value of one interior angle.



Circles: Children will be introduced to parts of a circle: circumference, radius and diameter.

Nets: Children will explore 2D representations of 3D shapes to further consolidate their understanding of the properties of shapes.

Unit 14

Problem solving



In this unit we will ...

- ✦ Solve problems about number, including fractions and ratio
- ✦ Use representations to help make sense of problems
- ✦ Use the four operations flexibly
- ✦ Reason about problems with a context and without a context
- ✦ Apply understanding of measurement and geometry to solve problems

In previous units, we used the four operations to solve calculations. Which operations do you need to find the value of the triangle?

$$\triangle + \triangle - 120 = 300$$



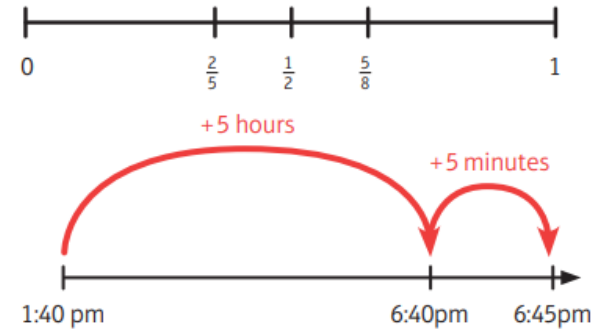
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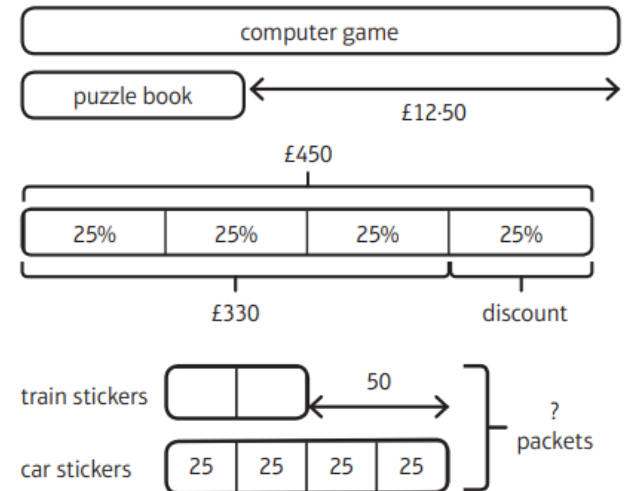
- partition
- estimate, round, compare
- equivalent, common denominator
- percentage, ratio, proportion, convert
- coordinates, vertex (vertices), reflection, translation
- sum of interior angles

STRUCTURES AND REPRESENTATIONS

Number line: This model helps children to work with positive and negative numbers, order numbers (including fractions) and calculate time intervals. It will also support their understanding of scales for measurement and statistics.



Bar model: Bar models help children to represent problems in a range of contexts, including fractions, percentages and ratio, to show what each part represents and what needs to be found.

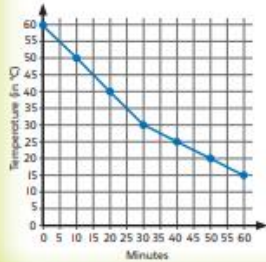


Unit 15 Statistics



In this unit we will ...

- ✦ Learn to calculate the mean of a set of data
- ✦ Use the mean to find missing data
- ✦ Read and interpret pie charts using fractions
- ✦ Read and interpret pie charts using percentages
- ✦ Interpret and create line graphs



We will be interpreting line graphs.

Here is a line graph that shows the temperature of a hot chocolate drink that was left to cool.

What was the temperature of the hot chocolate after ten minutes?



KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit:

- ➔ average, mean, set, share
- ➔ pie chart, segment, whole, section, degree, angle, right angle
- ➔ tally chart, bar chart
- ➔ fraction, percentage
- ➔ line graph, axis/axes, estimate, accurate, interpret, increase, above, below, zero (0), value, x-axis, y-axis, minus (-), between, plot, point, vertical, horizontal, construct, convert/conversion, straight, equivalent, predict, curve
- ➔ more, equal, even, size, total, share, great(er/est), calculate, divide, highest, compare, lowest, group, data, represent, balance, odd, different/difference, least, inverse, operation, advantages, disadvantages, largest, half, scale, quarter, frequency, smallest, part, same, more, category, results, exact

STRUCTURES AND REPRESENTATIONS

Bar model: These help children to work out the mean, showing how groups of different numbers can be made equal, so showing the mean. They are also useful to demonstrate the whole, or total, represented in a pie chart, and how the sections represent different percentages or fractions of the whole.

