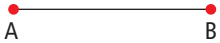
Get Ready

Identify Line Segments

A **line** is straight and extends without end in both directions.

A **line segment** is a part of a line between two points. It is named by its points. The line segment shown is named AB or BA.



The line segment can also be written as $\overline{AB}$ or $\overline{BA}$.

1. There are eight line segments highlighted in this photo of a train bridge. Name them.

2. What are the lengths of each line segment you named in #1? Measure to the nearest tenth of a centimetre, using a ruler.

"To the nearest tenth" is the same as saying "to one decimal place." A measurement of 2.4 cm is to the nearest tenth of a centimetre.

3. Which of the line segments in the photo have the same length? Name two pairs of equal line segments.

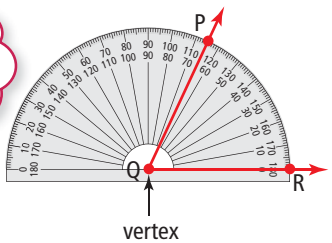
4. **a)** Which longer line segment is made up of two shorter line segments?

b) Which two shorter line segments make up this longer line segment?

Measure Angles

An **angle** is formed when two lines meet at a point called the **vertex**. An angle is named by the vertex and a point on each line. The middle point is the vertex. The angle shown is ∠PQR or ∠RQP.

No two letters in the name can be the same.



A protractor is used to measure the size of angles, in degrees.
∠PQR = 65°

5. What is the measure of each of these angles in the photo of the train bridge?

a) ∠ABE **b)** ∠DAE **c)** ∠DEC

6. Use a ruler and a protractor to draw an angle with each measure shown. Use letters to name each angle.

a) 35° **b)** 90° **c)** 125°

Determine Area

Area measures the region inside a two-dimensional shape.
It is measured in square units. Examples of square units are

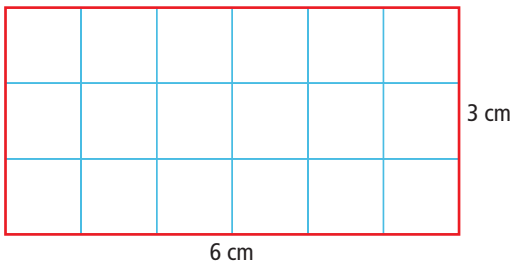
- square centimetres (cm^2)
- square metres (m^2)
- square kilometres (km^2)

One way to measure area is to count the number of square units inside a shape.

This rectangle contains 18 square centimetres.
The area is 18 cm^2.
Area can also be calculated using a formula:

$A = \text{length} \times \text{width}$
$A = l \times w$
$A = 6 \times 3$
$A = 18$

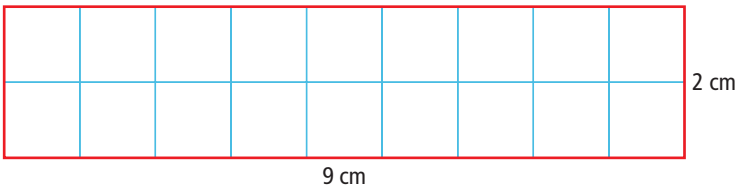
The area is 18 cm^2.



This rectangle also contains 18 square centimetres.
The area is calculated as shown:

$A = l \times w$
$A = 9 \times 2$
$A = 18$

The area is 18 cm^2.



7. What are the areas of the rectangles with the following lengths and widths?

a) 4 cm × 3 cm

b) 6 cm × 2 cm

c) 6 cm × 8 cm

d) 4 cm × 12 cm

8. Draw three different rectangles that have an area of 16 cm^2. Show that the areas are equal.

9. The octagon shown was drawn on centimetre grid paper. What is its area?