

## Step-by-Step 1

Lesson 4.1, Question 7

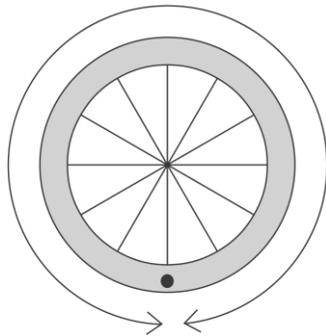




## Step-by-Step 2

### Lesson 4.2, Question 8

**Step 1** Look at this picture.



What do we call the distance the spot of paint has to travel?

\_\_\_\_\_

**Step 2** What is the formula for calculating the distance around the circle?

\_\_\_\_\_

**Step 3** The radius is 46 cm.  
Use the formula in *Step 2* to calculate the distance around.

\_\_\_\_\_

**Step 4** Convert 1 km to centimetres.

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**Step 5** To find how many times the paint marks the ground when the bicycle travels 1 km,  
divide your answer in *Step 4* by your answer in *Step 3*.

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**Step 6** What pattern will the paint make on the ground as the bicycle moves?

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**Step-by-Step 3****Lesson 4.3, Question 9**

Look at the diagram in *Practice* question 9 on page 142 of the Student Book.

**Step 1** What is Shape A? \_\_\_\_\_  
Shape A has base \_\_\_\_\_ m and height \_\_\_\_\_ m.  
Which formula can you use to find the area of Shape A? \_\_\_\_\_  
Calculate the area of Shape A. \_\_\_\_\_

**Step 2** What is Shape B? \_\_\_\_\_  
Shape B has base \_\_\_\_\_ m and height \_\_\_\_\_ m.  
Which formula can you use to find the area of Shape B? \_\_\_\_\_  
Calculate the area of Shape B. \_\_\_\_\_

**Step 3** What do you notice about the areas you calculated in *Steps 1* and *2*?

\_\_\_\_\_

**Step 4** Which shape will need more paint? Explain.

\_\_\_\_\_

**Step 5** Sasha says Shape B will need more paint than Shape A. Do you agree? \_\_\_\_\_  
Why or why not?

\_\_\_\_\_

\_\_\_\_\_

## Lesson 4.4, Question 9

Look at the diagram in *Practice* question 9 on page 147 of the Student Book.

**Step 1** The large triangle has base \_\_\_\_\_ m and height \_\_\_\_\_ m.

Use the formula for the area of a triangle:  $A = \frac{bh}{2}$

Calculate the area of the large triangle. \_\_\_\_\_

**Step 2** The large triangle is made from 4 congruent triangles.

Divide the area in *Step 1* by 4 to find the area of one congruent triangle.

\_\_\_\_\_

**Step 3** Three of the congruent triangles are to be painted blue.

Multiply the area in *Step 2* by 3 to get the area to be painted.

\_\_\_\_\_

**Step 4** One litre of paint covers  $5.5 \text{ m}^2$ . How many cans of paint are needed?

\_\_\_\_\_

Explain how you found your answer.

\_\_\_\_\_

What assumptions did you make?

\_\_\_\_\_

\_\_\_\_\_

**Step-by-Step 5****Lesson 4.5, Question 4**

**Step 1** Assume the circle below has radius 5 cm.  
What is its diameter?

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**Step 2** What is the length of one side of the outside square?

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Calculate the area of the outside square.

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**Step 3** Measure the side length of the inside square.

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Calculate the area of the inside square.

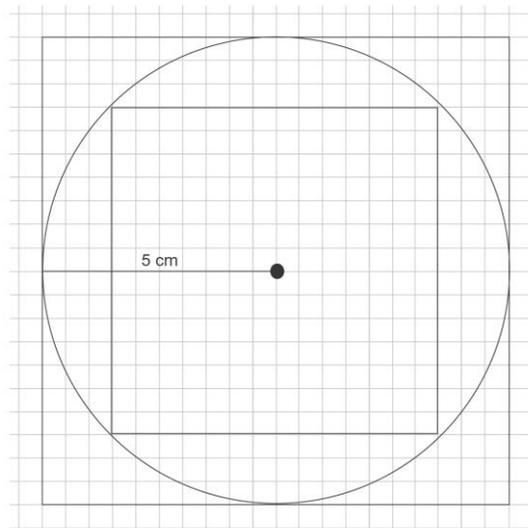
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**Step 4** Use the areas of the squares to estimate the area of the circle.

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**Step 5** Use the formula  $A = \pi r^2$  to calculate the area of the circle. \_\_\_\_\_

**Step 6** How does your estimate from *Step 4* compare with the area calculated in *Step 5*?



**Lesson 4.6, Question 5**

Look at the circle graph in *Practice* question 5 on page 159 of the Student Book.

**Step 1** What percent does the entire circle represent? \_\_\_\_\_  
 What is the sum of the percents shown? \_\_\_\_\_  
 Subtract to find the missing percent. \_\_\_\_\_  
 What percent of the population lived in Saskatchewan? \_\_\_\_\_

**Step 2** Order the sectors from smallest to largest.  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_

Order the provinces from least to greatest population.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,  
 \_\_\_\_\_

How did the circle graph help you do this?  
 \_\_\_\_\_  
 \_\_\_\_\_

**Step 3** The total population of the Western provinces was about 9 683 000 people.

44% of the population lived in British Columbia.

To find 44% of the population, multiply  $0.44 \times 9\,683\,000$ .

Write your answer to the nearest thousand.

\_\_\_\_\_

What was the population of British Columbia?  
 \_\_\_\_\_

**Step 4** Calculate the population of:  
 Alberta: \_\_\_\_\_  
 Saskatchewan: \_\_\_\_\_  
 Manitoba: \_\_\_\_\_

**Step 5** What else do you know from looking at the circle graph?  
 \_\_\_\_\_  
 \_\_\_\_\_

**Step-by-Step 7****Lesson 4.7, Question 3**

Look at the table in *Practice* question 3 on page 163 of the Student Book.

**Materials:** protractor, calculator, ruler

**Step 1** Find the sum of the numbers in the second column.

How many U.S. residents visited Canada that year?

\_\_\_\_\_

**Step 2** Write a fraction by replacing the words with numbers:

$$\frac{\text{Number of residents who entered by boat}}{\text{Total number of U.S. visitors}} = \underline{\hspace{2cm}}$$

Write this fraction as a percent by dividing the numerator by the denominator, then multiplying by 100.

What percent of U.S. residents entered Canada by boat?

\_\_\_\_\_

**Step 3** Write a fraction for the number of U.S. residents who entered Canada by plane. Write the fraction as a percent.

**Step 4** Write fractions, similar to those in *Steps 2 and 3*, for the numbers of U.S. residents who entered by train, bus, boat, and other. Write each fraction as a percent.

**Step 5** Complete the table to determine the sector angle for each type of transportation. Draw a circle graph. Start from the radius shown. Use a protractor to measure the sector angle for automobile. Draw the radius to make a sector with this angle. Continue to make a sector for each of the other angles. Label each sector with its percent.

Method of Transport	Sector Angle Using Fractions
Automobile	_____ × 360° = _____
Plane	_____ × 360° = _____
Train	_____ × 360° = _____
Bus	_____ × 360° = _____
Boat	_____ × 360° = _____
Other	_____ × 360° = _____

**Step 6** What do you know from the table or circle graph?

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