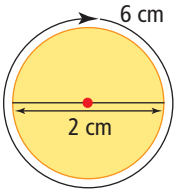
Get Ready

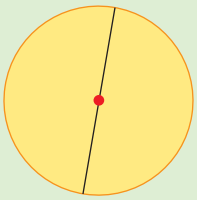
The Circle

Circles come in many different sizes.
The distance around the circle shown is about 6 cm.
The distance across is 2 cm.

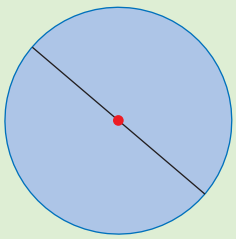


1. Use a ruler to measure the distance across each circle, to the nearest tenth of a centimetre.

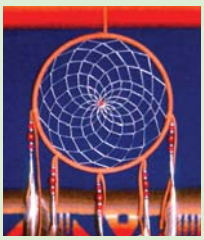
a)



b)



c)



d)

2. Estimate the distance around each circle in #1.

3. Choose two circular objects from your classroom or from home that are different sizes.

a) Compare the two circles. Estimate how much farther it is around one circle than the other.

b) How did you make your estimate?

c) Discuss your estimate with a partner. Does your partner agree with you?

Repeated Multiplication

5^2 can be written as $\underbrace{5 \times 5}$.
repeated multiplication

$5^2 = 5 \times 5$
$= 25$

5^2 is read as "5 squared" or "5 to the power of 2."

4^3 can be written as $4 \times 4 \times 4$.

$4^3 = 4 \times 4 \times 4$
$= 16 \times 4$
$= 64$

4. Write as a repeated multiplication. Then, calculate each answer.

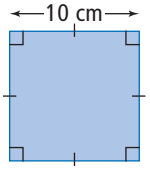
a) 2^5 **b)** 3^3 **c)** 4^2

d) 5^4 **e)** 6^2 **f)** 7^3

5. Does 2^5 equal 5^2? Use repeated multiplication to explain your answer.

Substitute Into Formulas

It can be helpful to use formulas to calculate the perimeter and area of basic geometric shapes. To evaluate a formula, you can substitute known values into the formula.



The formula for the perimeter of a square is $P = 4s$.

The formula for the area of a square is $A = s^2$.

$P = 4s$
$P = 4 \times 10$
$P = 40$

This is the same as adding the length of the sides together.
$P = 10 + 10 + 10 + 10$

The perimeter of the square is 40 cm.

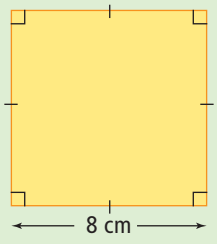
$A = s^2$
$A = 10^2$
$A = 10 \times 10$
$A = 100$

Area is expressed in square units. Remember to include the units in your final answer.

The area of the square is 100 cm^2.

6. What is the perimeter and the area of each shape? Use a formula.

a)



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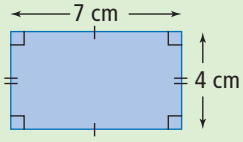
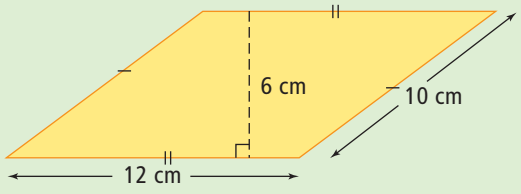
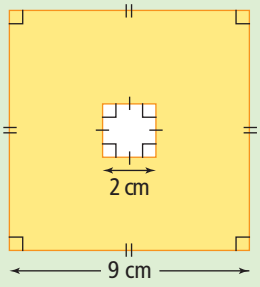


c)



7. What is the area of the shaded region?

a)



b)