

Perimeter

Notes Section 16.1

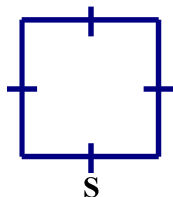
Name _____

G.GMD.A.1

POLYGON PERIMETER

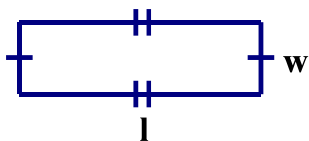
Perimeter refers to the distance around the edge of a closed figured shape. Perimeter formulas are often quite simple because they sum of the sides of a polygon.

Square



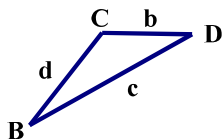
$$P = 4s$$

Rectangle



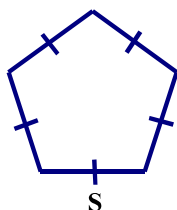
$$P = 2l + 2w$$

Triangle



$$P = b + c + d$$

Regular Pentagon



$$P = 5s$$

CIRCLE PERIMETER – CIRCUMFERENCE

The perimeter of a circle is called its **circumference**.

$$\text{Circumference} = \pi d = 2\pi r$$

Find the missing measurement.

1. $C = 9\pi$ cm, find r .

$$C = 2\pi r$$

$$9\pi = 2\pi r$$

$$\frac{9\pi}{2\pi} = r$$

$$4.5 \text{ cm} = r$$

2. $r = 16$ cm, find d .

$$d = 2r$$

$$d = 2(16)$$

$$d = 32 \text{ cm}$$

3. $r = 3$ cm, find C with exact answer.

$$C = 2\pi r$$

$$C = 2\pi(3)$$

$$C = 6\pi \text{ cm}$$

4. $C = \pi$ cm, find d .

$$C = \pi d$$

$$\pi = \pi d$$

$$1 \text{ cm} = d$$

Perimeter

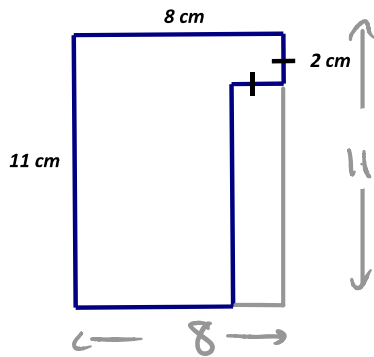
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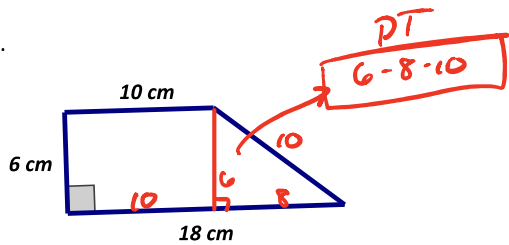
Determine the perimeter of the given shapes. (Lines that appear to be perpendicular are perpendicular.)

5.



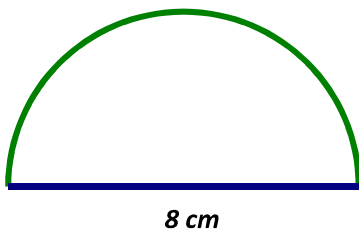
$$\begin{aligned}
 P &= 2l + 2w \\
 &= 2(8) + 2(11) \\
 &= 16 + 22 \\
 P &= 38 \text{ cm}
 \end{aligned}$$

6.



$$\begin{aligned}
 P &= 6 + 10 + 18 + 10 \\
 P &= 44 \text{ cm}
 \end{aligned}$$

7.



$$\begin{aligned}
 P_{\text{FIG}} &= 8 + \frac{1}{2}C \\
 &= \frac{1}{2} + \frac{1}{2}(\pi d) \\
 &= \frac{1}{2} + \frac{1}{2}\pi(8) \\
 P_{\text{FIG}} &= \left(\frac{1}{2} + 4\pi\right) \text{ cm}
 \end{aligned}$$