

TOPIC: PERIMETER AND AREA OF POLYGONS

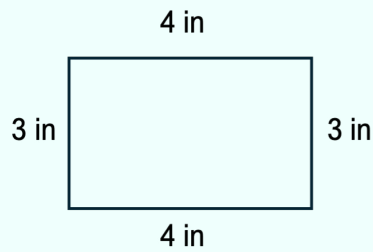
Perimeter

- ◆ To find the **perimeter** of a polygon, just add all _____. Always include _____ if they're given.
- ▶ To find the perimeter of a **compound shape**, 1st find any **missing side lengths** by _____ or **parallel** side lengths.

EXAMPLE

Find the perimeter of each figure shown.

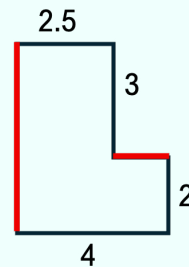
(A)



$$P =$$

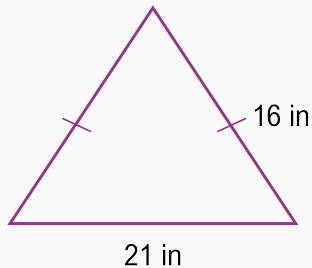
(Rectangle Perimeter)

(B)  Hint: Trace & add each side exactly once.



PRACTICE

Find the perimeter of the *isosceles* triangle (two sides have equal length).



PRACTICE

Find the perimeter of a rectangle with length 12 yd and width 8 yd.

Recall

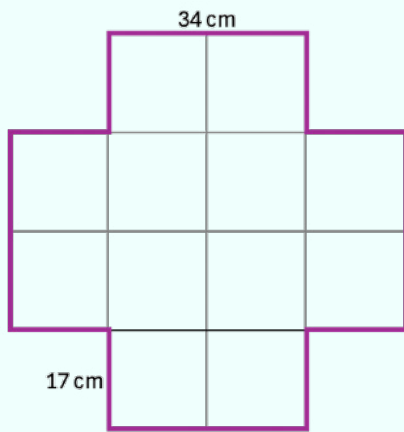
$$P = 2l + 2w$$

(Rectangle Perimeter)

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EXAMPLE

Find the perimeter of the figure shown.



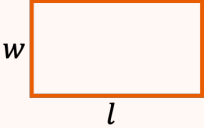
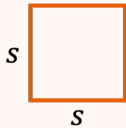
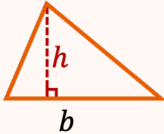
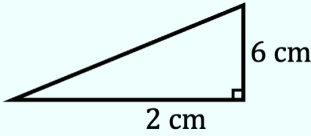
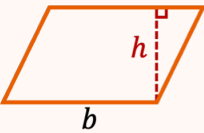
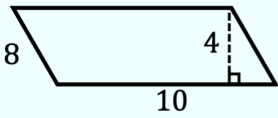
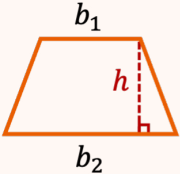
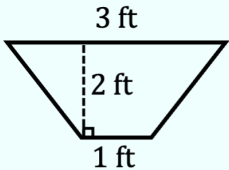
EXAMPLE

Nick is planning to transform his rectangular plot into a garden that is 12 meters long and 8 meters wide. He wants to install a fence around the entire garden, which costs an average of \$15 per meter. How much will it cost him to fence the garden?

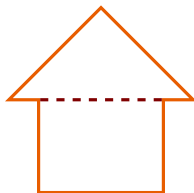
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Area

◆ To find area, you will often _____ side lengths. The units will be squared (ex: ____, ____).

AREA			
Shape	Formula		Example
Rectangle	$A = l \cdot w$		A rectangle with length 8 & width 5.
Square	$A = s^2$		A square with side lengths $s = 7$ in.
Triangle	$A = \frac{1}{2}bh$		
Parallelogram	$A = bh$		
Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h$		

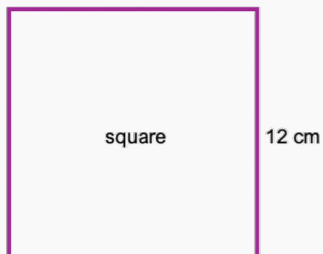
◆ To find the area of a compound shape, you can split it into known shapes.



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PRACTICE

Find the area of the figure.



Recall

$$A = l \cdot w \quad (\text{Rectangle})$$

$$A = s^2 \quad (\text{Square})$$

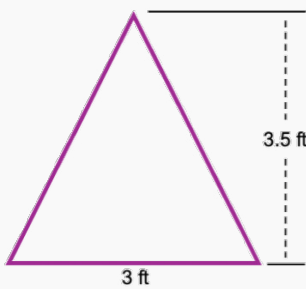
$$A = \frac{1}{2}bh \quad (\text{Triangle})$$

$$A = bh \quad (\text{Parallelogram})$$

$$A = \frac{1}{2}(b_1 + b_2)h \quad (\text{Trapezoid})$$

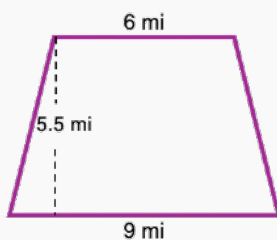
PRACTICE

Find the area of the figure.



PRACTICE

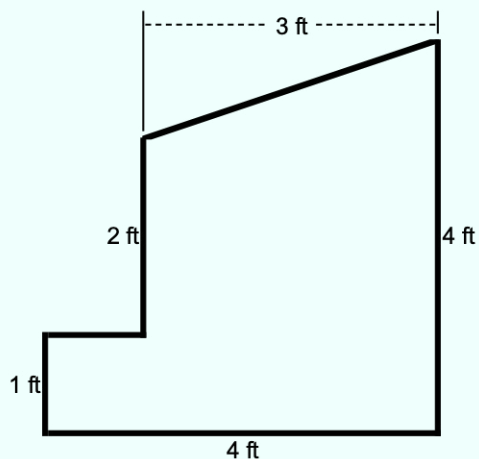
Find the area of the figure.



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EXAMPLE

Find the area of the figure shown. (💡 *Hint: Split the figure into known shapes.*)



Recall

$$A = l \cdot w \quad (\text{Rectangle})$$

$$A = s^2 \quad (\text{Square})$$

$$A = \frac{1}{2}bh \quad (\text{Triangle})$$

$$A = bh \quad (\text{Parallelogram})$$

$$A = \frac{1}{2}(b_1 + b_2)h \quad (\text{Trapezoid})$$

EXAMPLE

Bayleigh wants to paint the triangular section of a wall that has a base of 2.5 feet and a height 4.0 feet. If paint costs \$16 per square foot, how much would it cost to paint this section of a wall?