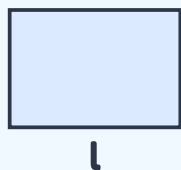


Area & Perimeter Formulas

Use the formulas to find the area and the perimeter.

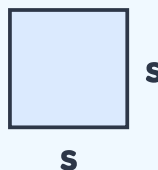
Rectangle



$$\text{Area: } A = l \times w$$

$$\text{Perimeter: } P = 2 \times l + 2 \times w$$

Square



$$\text{Area: } A = s \times s$$

$$\text{Perimeter: } P = 4 \times s$$

Area is in square units (sq cm means square centimeters). Perimeter is in units (cm).



16 cm

7 cm

$$A = 16 \times 7 = 112 \text{ sq cm}$$

$$P = 2 \times 16 + 2 \times 7 = 46 \text{ cm}$$

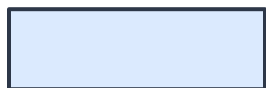
Example

$$10 \times 7 = 70$$

$$6 \times 7 = 42$$

$$70 + 42 = 112$$

1.



24 m

6 m

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq m}$$

$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ m}$$

Work space

2.



14 in.

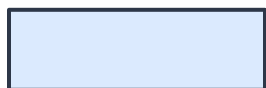
14 in.

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq in.}$$

$$P = 4 \times \underline{\quad} = \underline{\quad} \text{ in.}$$

Work space

3.



38 ft

4 ft

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq ft}$$

$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ ft}$$

Work space

4.



52 cm

9 cm

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq cm}$$

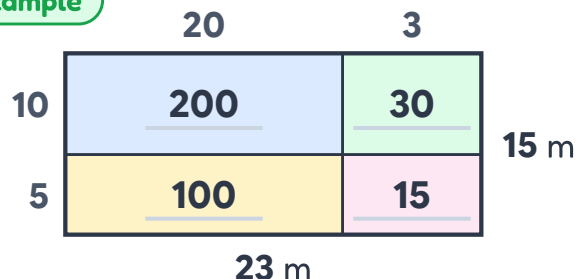
$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ cm}$$

Work space

Area & Perimeter Formulas

Find the area of each part. Then find the area and the perimeter.

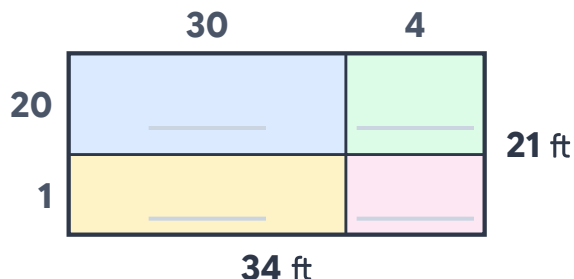
Example



$$A = 23 \times 15 = 345 \text{ sq m}$$

$$P = 2 \times 23 + 2 \times 15 = 76 \text{ m}$$

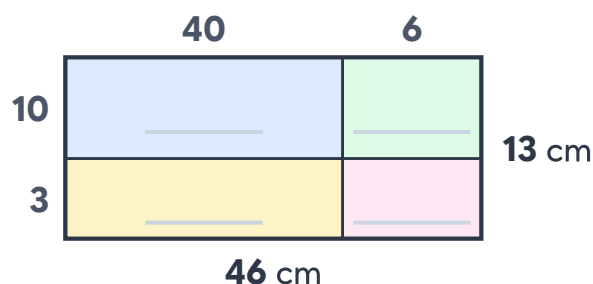
1.



$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ sq ft}$$

$$P = 2 \times \underline{\hspace{1cm}} + 2 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ ft}$$

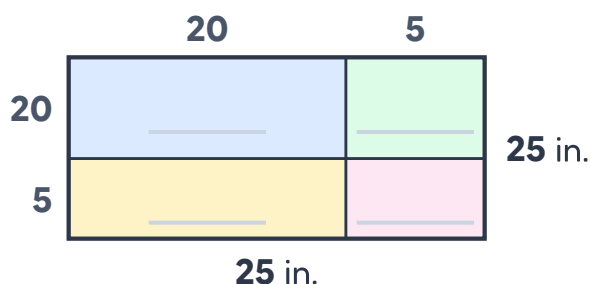
2.



$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ sq cm}$$

$$P = 2 \times \underline{\hspace{1cm}} + 2 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ cm}$$

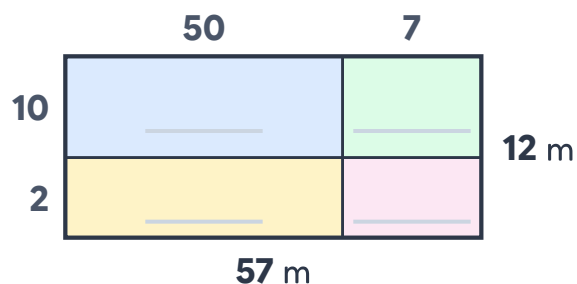
3.



$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ sq in.}$$

$$P = 4 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ in.}$$

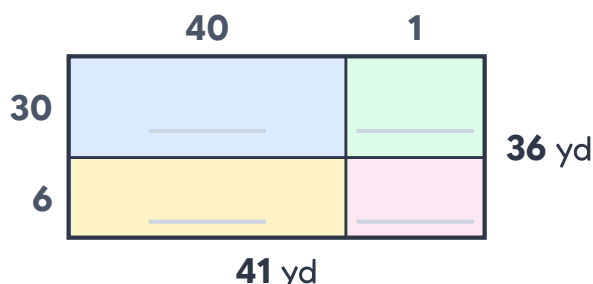
4.



$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ sq m}$$

$$P = 2 \times \underline{\hspace{1cm}} + 2 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ m}$$

5.



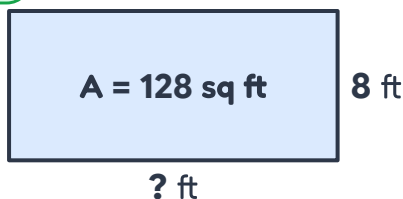
$$A = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ sq yd}$$

$$P = 2 \times \underline{\hspace{1cm}} + 2 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \text{ yd}$$

Area & Perimeter Formulas

Use the area to find the missing side. Then check.

Example

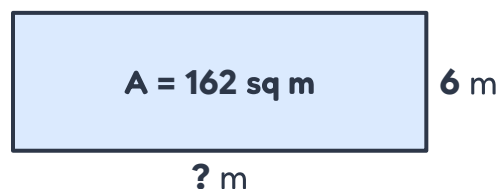


$$128 \div 8 = 16$$

The missing side is 16 ft.

Check: $16 \times 8 = 128$

1.

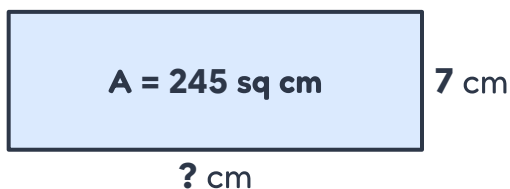


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is m.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

2.

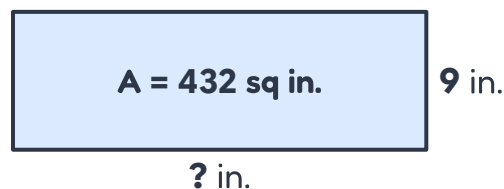


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is cm.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

3.

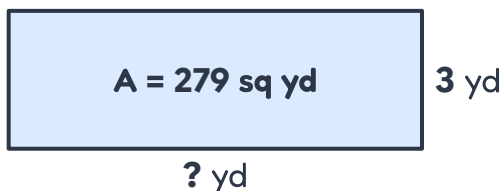


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is in.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

4.

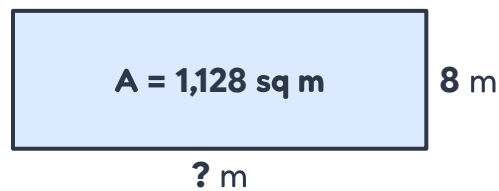


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is yd.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

5.



$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is m.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

Area & Perimeter Formulas

Use the perimeter to find the missing side.

Example

P = 86 cm

25 cm

? cm

$$l + w = 86 \div 2 = 43$$
$$43 - 25 = 18$$

The missing side is 18 cm.

1.

P = 118 m

37 m

? m

$$l + w = \div 2 =$$
$$- =$$

The missing side is m.

2.

P = 92 in.

square

$$\div 4 =$$

Each side is in.

3.

P = 150 ft

16 ft

? ft

$$l + w = \div 2 =$$
$$- =$$

The missing side is ft.

Find the missing measures. All sides are in feet.

Example

Shape	Length (ft)	Width (ft)	Area (sq ft)	Perimeter (ft)
rectangle	18	7	126	50
rectangle		6	96	
rectangle	27			74
square				68
rectangle		7	217	
rectangle		9		62

Area & Perimeter Formulas

Does each story need the area or the perimeter? Solve.

Example Mr. Lee puts a fence around his garden. The garden is 24 feet long and 15 feet wide. How many feet of fence does he need?

Circle: area perimeter

Equation: $2 \times 24 + 2 \times 15 = 78$ One way

Answer: 78 feet

1. A rug is 17 feet long and 8 feet wide. How many square feet of the floor does the rug cover?

Circle: area perimeter

Equation: _____

Answer: _____

2. Mia's bedroom floor is 16 feet long and 13 feet wide. How many square feet of carpet will cover it?

Circle: area perimeter

Equation: _____

Answer: _____

3. Ben glues ribbon around the edge of a poster. The poster is 36 inches long and 24 inches wide. How many inches of ribbon does he use?

Circle: area perimeter

Equation: _____

Answer: _____

4. A school garden covers 168 square meters. It is 8 meters wide. How many meters long is the garden?

Circle: area perimeter

Equation: _____

Answer: _____

5. Ty uses 90 feet of fence to go around a pen. The pen is 30 feet long. How many feet wide is the pen?

Circle: area perimeter

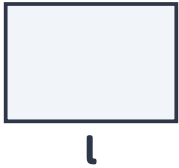
Equation: _____

Answer: _____

Area & Perimeter Formulas

Use the formulas to find the area and the perimeter.

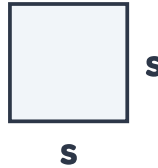
Rectangle



$$\text{Area: } A = l \times w$$

$$\text{Perimeter: } P = 2 \times l + 2 \times w$$

Square



$$\text{Area: } A = s \times s$$

$$\text{Perimeter: } P = 4 \times s$$

Area is in square units (sq cm means square centimeters). Perimeter is in units (cm).



16 cm

7 cm

$$A = 16 \times 7 = 112 \text{ sq cm}$$

$$P = 2 \times 16 + 2 \times 7 = 46 \text{ cm}$$

Example

$$10 \times 7 = 70$$

$$6 \times 7 = 42$$

$$70 + 42 = 112$$

1.



24 m

6 m

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq m}$$

$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ m}$$

Work space

2.



14 in.

14 in.

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq in.}$$

$$P = 4 \times \underline{\quad} = \underline{\quad} \text{ in.}$$

Work space

3.



38 ft

4 ft

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq ft}$$

$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ ft}$$

Work space

4.



52 cm

9 cm

$$A = \underline{\quad} \times \underline{\quad} = \underline{\quad} \text{ sq cm}$$

$$P = 2 \times \underline{\quad} + 2 \times \underline{\quad} = \underline{\quad} \text{ cm}$$

Work space

Area & Perimeter Formulas

Find the area of each part. Then find the area and the perimeter.

Example



$$A = 23 \times 15 = 345 \text{ sq m}$$

$$P = 2 \times 23 + 2 \times 15 = 76 \text{ m}$$

1.



$$A = ___ \times ___ = ___ \text{ sq ft}$$

$$P = 2 \times ___ + 2 \times ___ = ___ \text{ ft}$$

2.



$$A = ___ \times ___ = ___ \text{ sq cm}$$

$$P = 2 \times ___ + 2 \times ___ = ___ \text{ cm}$$

3.



$$A = ___ \times ___ = ___ \text{ sq in.}$$

$$P = 4 \times ___ = ___ \text{ in.}$$

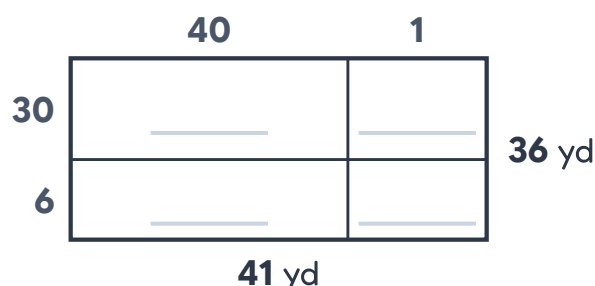
4.



$$A = ___ \times ___ = ___ \text{ sq m}$$

$$P = 2 \times ___ + 2 \times ___ = ___ \text{ m}$$

5.



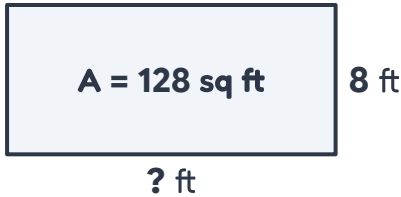
$$A = ___ \times ___ = ___ \text{ sq yd}$$

$$P = 2 \times ___ + 2 \times ___ = ___ \text{ yd}$$

Area & Perimeter Formulas

Use the area to find the missing side. Then check.

Example

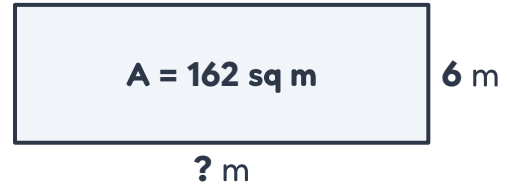


$$128 \div 8 = 16$$

The missing side is 16 ft.

Check: $16 \times 8 = 128$

1.



$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is m.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

2.

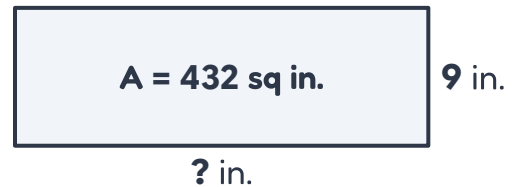


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is cm.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

3.

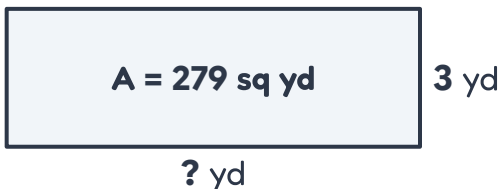


$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is in.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

4.



$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is yd.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

5.



$$\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

The missing side is m.

Check: $\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

Area & Perimeter Formulas

Use the perimeter to find the missing side.

Example

P = 86 cm

25 cm

? cm

$l + w = 86 \div 2 = 43$

$43 - 25 = 18$

The missing side is 18 cm.

1.

P = 118 m

37 m

? m

$l + w = \div 2 =$

$- =$

The missing side is m.

2.

P = 92 in.

square

$\div 4 =$

Each side is in.

3.

P = 150 ft

16 ft

? ft

$l + w = \div 2 =$

$- =$

The missing side is ft.

Find the missing measures. All sides are in feet.

Example

Shape	Length (ft)	Width (ft)	Area (sq ft)	Perimeter (ft)
rectangle	18	7	126	50
rectangle		6	96	
rectangle	27			74
square				68
rectangle		7	217	
rectangle		9		62

Area & Perimeter Formulas

Does each story need the area or the perimeter? Solve.

Example Mr. Lee puts a fence around his garden. The garden is **24** feet long and **15** feet wide. How many feet of fence does he need?

Circle: **area** perimeter

Equation: $2 \times 24 + 2 \times 15 = 78$ One way

Answer: 78 feet

1. A rug is **17** feet long and **8** feet wide. How many square feet of the floor does the rug cover?

Circle: **area** **perimeter**

Equation: _____

Answer: _____

2. Mia's bedroom floor is **16** feet long and **13** feet wide. How many square feet of carpet will cover it?

Circle: **area** **perimeter**

Equation: _____

Answer: _____

3. Ben glues ribbon around the edge of a poster. The poster is **36** inches long and **24** inches wide. How many inches of ribbon does he use?

Circle: **area** **perimeter**

Equation: _____

Answer: _____

4. A school garden covers **168** square meters. It is **8** meters wide. How many meters long is the garden?

Circle: **area** **perimeter**

Equation: _____

Answer: _____

5. Ty uses **90** feet of fence to go around a pen. The pen is **30** feet long. How many feet wide is the pen?

Circle: **area** **perimeter**

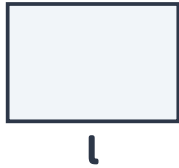
Equation: _____

Answer: _____

Area & Perimeter Formulas

Use the formulas to find the area and the perimeter.

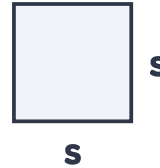
Rectangle



$$\text{Area: } A = l \times w$$

$$\text{Perimeter: } P = 2 \times l + 2 \times w$$

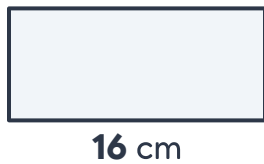
Square



$$\text{Area: } A = s \times s$$

$$\text{Perimeter: } P = 4 \times s$$

Area is in square units (sq cm means square centimeters). Perimeter is in units (cm).



$$A = 16 \times 7 = 112 \text{ sq cm}$$

$$P = 2 \times 16 + 2 \times 7 = 46 \text{ cm}$$

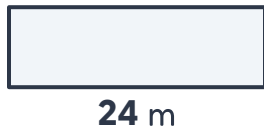
Example

$$10 \times 7 = 70$$

$$6 \times 7 = 42$$

$$70 + 42 = 112$$

1.



$$A = 24 \times 6 = 144 \text{ sq m}$$

$$P = 2 \times 24 + 2 \times 6 = 60 \text{ m}$$

Work space

$$20 \times 6 = 120$$

$$4 \times 6 = 24$$

$$120 + 24 = 144$$

2.



$$A = 14 \times 14 = 196 \text{ sq in.}$$

$$P = 4 \times 14 = 56 \text{ in.}$$

Work space

$$10 \times 14 = 140$$

$$4 \times 14 = 56$$

$$140 + 56 = 196$$

3.



$$A = 38 \times 4 = 152 \text{ sq ft}$$

$$P = 2 \times 38 + 2 \times 4 = 84 \text{ ft}$$

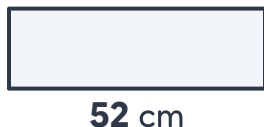
Work space

$$30 \times 4 = 120$$

$$8 \times 4 = 32$$

$$120 + 32 = 152$$

4.



$$A = 52 \times 9 = 468 \text{ sq cm}$$

$$P = 2 \times 52 + 2 \times 9 = 122 \text{ cm}$$

Work space

$$50 \times 9 = 450$$

$$2 \times 9 = 18$$

$$450 + 18 = 468$$

Area & Perimeter Formulas

Find the area of each part. Then find the area and the perimeter.

Example



$$A = 23 \times 15 = 345 \text{ sq m}$$

$$P = 2 \times 23 + 2 \times 15 = 76 \text{ m}$$

1.



$$A = 34 \times 21 = 714 \text{ sq ft}$$

$$P = 2 \times 34 + 2 \times 21 = 110 \text{ ft}$$

2.



$$A = 46 \times 13 = 598 \text{ sq cm}$$

$$P = 2 \times 46 + 2 \times 13 = 118 \text{ cm}$$

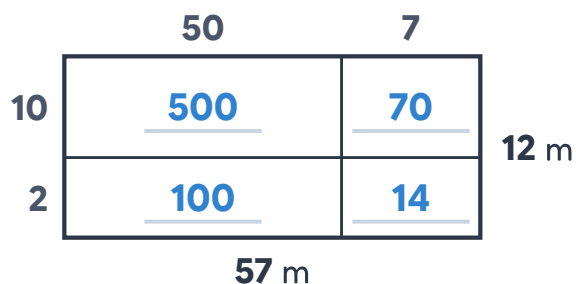
3.



$$A = 25 \times 25 = 625 \text{ sq in.}$$

$$P = 4 \times 25 = 100 \text{ in.}$$

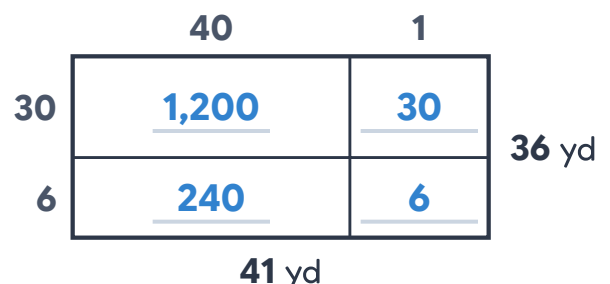
4.



$$A = 57 \times 12 = 684 \text{ sq m}$$

$$P = 2 \times 57 + 2 \times 12 = 138 \text{ m}$$

5.



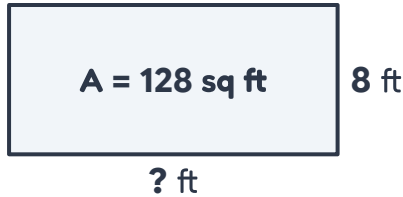
$$A = 41 \times 36 = 1,476 \text{ sq yd}$$

$$P = 2 \times 41 + 2 \times 36 = 154 \text{ yd}$$

Area & Perimeter Formulas

Use the area to find the missing side. Then check.

Example

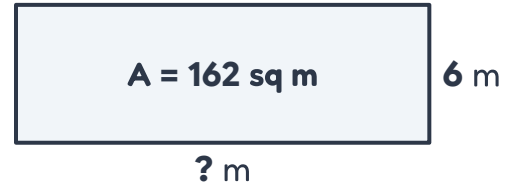


$$128 \div 8 = 16$$

The missing side is 16 ft.

Check: $16 \times 8 = 128$

1.



$$162 \div 6 = 27$$

The missing side is 27 m.

Check: $27 \times 6 = 162$

2.

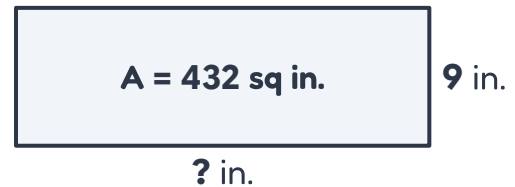


$$245 \div 7 = 35$$

The missing side is 35 cm.

Check: $35 \times 7 = 245$

3.

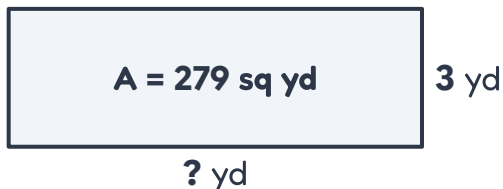


$$432 \div 9 = 48$$

The missing side is 48 in.

Check: $48 \times 9 = 432$

4.



$$279 \div 3 = 93$$

The missing side is 93 yd.

Check: $93 \times 3 = 279$

5.



$$1,128 \div 8 = 141$$

The missing side is 141 m.

Check: $141 \times 8 = 1,128$

Area & Perimeter Formulas

Use the perimeter to find the missing side.

Example

$P = 86 \text{ cm}$? cm
 25 cm
 $l + w = 86 \div 2 = 43$
 $43 - 25 = 18$
 The missing side is 18 cm.

1.

$P = 118 \text{ m}$? m
 37 m
 $l + w = 118 \div 2 = 59$
 $59 - 37 = 22$
 The missing side is 22 m.

2.

$P = 92 \text{ in.}$ square
 $92 \div 4 = 23$
 Each side is 23 in.

3.

$P = 150 \text{ ft}$ 16 ft
 ? ft
 $l + w = 150 \div 2 = 75$
 $75 - 16 = 59$
 The missing side is 59 ft.

Find the missing measures. All sides are in feet.

Example

Shape	Length (ft)	Width (ft)	Area (sq ft)	Perimeter (ft)
rectangle	18	7	<u>126</u>	<u>50</u>
rectangle	<u>16</u>	6	96	<u>44</u>
rectangle	27	<u>10</u>	<u>270</u>	74
square	<u>17</u>	<u>17</u>	<u>289</u>	68
rectangle	<u>31</u>	7	217	<u>76</u>
rectangle	<u>22</u>	9	<u>198</u>	62

Area & Perimeter Formulas

Does each story need the area or the perimeter? Solve.

Example Mr. Lee puts a fence around his garden. The garden is 24 feet long and 15 feet wide. How many feet of fence does he need?

Circle: area perimeter

One way

Equation: $2 \times 24 + 2 \times 15 = 78$

Answer: 78 feet

1. A rug is 17 feet long and 8 feet wide. How many square feet of the floor does the rug cover?

Circle: area perimeter

One way

Equation: $17 \times 8 = 136$

Answer: 136 square feet

2. Mia's bedroom floor is 16 feet long and 13 feet wide. How many square feet of carpet will cover it?

Circle: area perimeter

One way

Equation: $16 \times 13 = 208$

Answer: 208 square feet

3. Ben glues ribbon around the edge of a poster. The poster is 36 inches long and 24 inches wide. How many inches of ribbon does he use?

Circle: area perimeter

One way

Equation: $2 \times 36 + 2 \times 24 = 120$

Answer: 120 inches

4. A school garden covers 168 square meters. It is 8 meters wide. How many meters long is the garden?

Circle: area perimeter

One way

Equation: $168 \div 8 = 21$

Answer: 21 meters

5. Ty uses 90 feet of fence to go around a pen. The pen is 30 feet long. How many feet wide is the pen?

Circle: area perimeter

One way

Equation: $(90 - 2 \times 30) \div 2 = 15$

Answer: 15 feet