TABE Math-E

PAXEN

Unit-6 Geometry
Lesson 46
Area of Rectangles
Area = Length x WIdth

Revised: November 4, 2023
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Some graphics may not have copied well during the scan process.

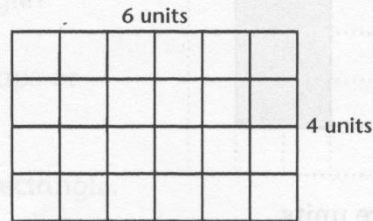# Math-E - Lesson 46 – Area of Rectangles

Lesson 46 | Area of Rectangles

You can count the number of unit squares that cover a rectangle to find its area. You can also multiply the length by the width to find the area.

Area = length × width

Example What is the area of this rectangle?

6 units

4 units

1) Find the length of the rectangle.   Length = 6 units

2) Find the width of the rectangle.   Width = 4 units

3) Multiply the length by the width to find the area of the rectangle.   6 units × 4 units = 24 square units

The area of the rectangle is 24 square units.

Example What is the area of this rectangle?

8 in.

2 in.
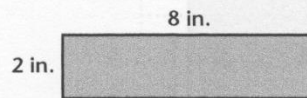
1) Find the length and width of the rectangle.   Length = 8 in.

Width = 2 in.

2) Multiply the length by the width to find the area of the rectangle.   8 in. × 2 in. = 16 in.^{2}

The area of the rectangle is 16 square inches.

Test Example

1. Rick's bedroom is 8 feet wide and 10 feet long. What is the area of his bedroom?

   A. 40 feet   B. 80 feet

   C. 40 square feet   D. 80 square feet

1. **D** 8 feet × 10 feet = 80 square feet

Hint
Remember that area is always given in square units.

Math-E - Lesson 46 – Area of Rectangles
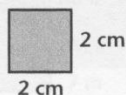
Read each question. Select the correct answer.

1 Jan painted a wall that is 9 feet high and 11 feet long. What is the area of the wall?

A. 81 square feet

B. 90 square feet

C. 99 square feet

D. 100 square feet

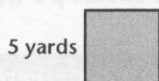**2** Sue has a rug that is 5 feet wide and 8 feet long. What is the area of the rug?

A. 16 square feet

B. 40 square feet

C. 58 square feet

D. 85 square feet

3 What is the area of this square?

2 cm

2 cm

A. 4 square centimeters

B. 6 square centimeters

C. 8 square centimeters

D. 10 square centimeters
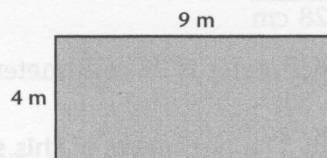
4 What is the area of this square?

5 yards

A. 5 square yards

B. 10 square yards

C. 20 square yards

D. 25 square yards

5 Ian wants to buy carpeting for his living room. The room is 9 feet wide by 9 feet long. How much carpeting should Ian buy?

A. 24 square feet

B. 48 square feet

C. 81 square feet

D. 90 square feet

6 What is the area of this rectangle?

9 m

4 m

A. 27 square meters

B. 36 square meters

C. 45 square meters

D. 54 square meters

7 Ted has a garden that is 7 feet long and 8 feet wide. What is the area of the garden?

A. 56 square feet

B. 63 square feet

C. 64 square feet

D. 72 square feet

8 Jai has 48 bathroom floor tiles that are each 1 square foot. What size bathroom floor could Jai cover?

A. 4 feet wide by 8 feet long

B. 6 feet wide by 8 feet long

C. 7 feet wide by 8 feet long

D. 8 feet wide by 8 feet long

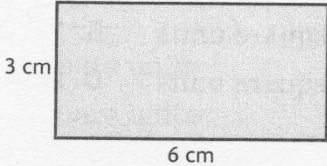**Lesson 46** | **Area of Rectangles**

1. C. $9 \times 11 = 99$ square feet

2. B. $5 \times 8 = 40$ square feet

3. A. $2 \times 2 = 4$ square centimeters

4. D. $5 \times 5 = 25$ square yards

5. C. $9 \times 9 = 81$ square feet

6. B. $4 \times 9 = 36$ square meters

7. A. $7 \times 8 = 56$ square feet

8. B. 6 feet wide by 8 feet long

Practice 46 | Area of Rectangles

1 A hockey goal is six feet wide and four feet tall. What is the area of the opening of a hockey goal?

A. 64 ft²

B. 46 ft²

C. 24 ft²

D. 10 ft²

2 A highway billboard is 15 meters wide and 6 meters high. What is the area of the billboard?

A. 12 m²

B. 21 m²

C. 42 m²

D. 90 m²

3 Ramone pours concrete as a base for his new shed. The concrete base is seven feet long and five feet wide. What is the area of the concrete base?

A. 12 ft²

B. 24 ft²

C. 35 ft²

D. 53 ft²

4 Pacita buys a rectangular pool covering for her in-ground pool. It is eight meters long and six meters wide. What is the area of the pool covering?

A. 56 m²

B. 48 m²

C. 28 m²

D. 14 m²

5 The bottom of Dawn's tent is five feet long and six feet wide. What is the area of the bottom of Dawn's tent?

A. 30 ft²

B. 25 ft²

C. 22 ft²

D. 11 ft²

6 Shaquana creates a mosaic using tiles that each have an area of 1 square centimeter. She uses 36 tiles. What are two possible sizes for the mosaic that Shaquana creates?

A. 9 cm wide by 4 cm long

B. 10 cm wide by 3 cm long

C. 11 cm wide by 4 cm long

D. 12 cm wide by 3 cm long

E. 13 cm wide by 4 cm long

F. 14 cm wide by 3 cm long

7 Matthew mops a dining hall after a banquet. The dining hall measures 11 yards long and 8 yards wide. How many square yards does Matthew mop?

A. 19 yd²

B. 38 yd²

C. 88 yd²

D. 108 yd²

8 What is the area of the rectangle?

3 cm

6 cm

A. 24 cm²

B. 18 cm²

C. 12 cm²

D. 9 cm²

9 Chatan cleans the glass of the seahorse exhibit at the aquarium. The glass is four feet long and three feet high. How many square feet of glass does Chatan clean?

A. 21 ft²

B. 18 ft²

C. 14 ft²

D. 12 ft²

Math-E - Practice 46 – Area of Rectangles

10 Pablo places a checkered tablecloth on a picnic table. There are 32 squares each measuring 1 square foot on the tablecloth. What is the size of the tablecloth?

A. 4 ft long by 6 ft wide

B. 4 ft long by 7 ft wide
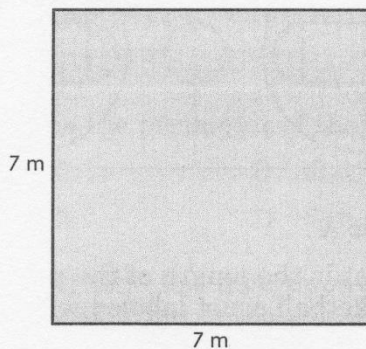
C. 8 ft long by 4 ft wide

D. 8 ft long by 3 ft wide

11 Ulan mows his backyard, which is eight yards long and seven yards wide. How many square yards does Ulan mow?

A. 65 yd²

B. 56 yd²

C. 30 yd²

D. 15 yd²

12 Kendy buys a postcard that is four inches long and five inches wide. What is the area of the postcard?

A. 22 in.²

B. 20 in.²

C. 18 in.²

D. 9 in.²

13 What is the area of the square?

7 m

7 m

A. 49 m²

B. 35 m²

C. 28 m²

D. 14 m²

14 Carrie uses 60 squares of fabric to make a quilt. Each square has an area of 1 square foot. What are two possible sizes of Carrie's quilt?

A. 10 ft long by 3 ft wide

B. 11 ft long by 4 ft wide

C. 12 ft long by 5 ft wide

D. 13 ft long by 5 ft wide

E. 14 ft long by 3 ft wide

F. 15 ft long by 4 ft wide

15 Kofi and Danika have a mural of their favorite memories painted to celebrate their 60th wedding anniversary. The mural has a length of five yards and a width of three yards. What is the area of the mural?

A. 8 yd²

B. 11 yd²

C. 12 yd²

D. 15 yd²

16 Idania receives a plaque in recognition of her volunteer service. It is 12 inches long and 8 inches wide. What is the area of the plaque?

A. 104 in.²

B. 96 in.²

C. 69 in.²

D. 40 in.²

17 Koko buys a throw rug for her living room floor. The rug is 15 feet long and 9 feet wide. What is the area of the rug?

A. 135 ft²

B. 126 ft²

C. 120 ft²

D. 112 ft²

18 A rectangular mirror is eight feet long and three feet wide. What is the area of the mirror?

A. 18 ft²

B. 21 ft²

C. 24 ft²

D. 32 ft²

Math-E - Practice 46 – Area of Rectangles

pp. 34–35   (3.MD.7.a; 3.MD.7.b)

1. C. 6 × 4 = 24 ft²; The area of the opening of the hockey goal is 24 ft².

2. D. 15 × 6 = 90 m²; The area of the billboard is 90 m².

3. C. 7 × 5 = 35 ft²; The area of the concrete base is 35 ft².

4. B. 8 × 6 = 48 m²; The area of the pool covering is 48 m².

5. A. 5 × 6 = 30 ft²; The area of the bottom of Dawn's tent is 30 ft².

6. A, D. A mosaic made of 36 one-centimeter tiles would have an area of 36 cm², so the product of the length and width must be 36: 9 × 4 = 36 and 12 × 3 = 36. Two possible sizes of the mosaic are 9 cm wide by 4 cm long and 12 cm wide by 3 cm long.

7. C. 11 × 8 = 88 yd²; Matthew mops an area of 88 yd².

8. B. 6 × 3 = 18 cm²; The area of the rectangle is 18 cm².

9. D. 4 × 3 = 12 ft²; Chatan cleans 12 ft² of glass.

10. C. A tablecloth with 32 one-foot squares would have an area of 32 ft², so the product of the length and width must be 32: 8 × 4 = 32. The tablecloth is 8 ft long by 4 ft wide.

11. B. 8 × 7 = 56 yd²; Ulan mows an area of 56 yd².

12. B. 4 × 5 = 20 in.²; The area of the postcard is 20 in.².

13. A. 7 × 7 = 49 m²; The area of the square is 49 m².

14. C, F. A quilt made of 60 one-foot squares would have an area of 60 ft², so the product of the length and width must be 60: 12 × 5 = 60 and 15 × 4 = 60. Two possible sizes for Carrie's quilt are 12 ft long by 5 ft wide and 15 ft long by 4 ft wide.

15. D. 5 × 3 = 15 yd²; The area of the mural is 15 yd².

16. B. 12 × 8 = 96 in.²; The area of the plaque is 96 in.².

17. A. 15 × 9 = 135 ft²; The area of the rug is 135 ft².

18. C. 8 × 3 = 24 ft²; The area of the mirror is 24 ft².