Grade 3 Unit 6 worksheet: Area of rectangles and squares (answer key)

ANSWERS AT A GLANCE

1. (a) 28 square feet (b) 27 square meters (c) 16 square inches (d) 40 square centimeters (e) 20 square meters (f) 18 square inches
2. 24 square inches
3. The unit is wrong. The area is 35 square feet.
4. 6 square feet
5. 3 inches, 4 inches, 8 inches

WORKED SOLUTIONS

1. Find the area of each rectangle.

(a) 4 feet by 7 feet: _____ square feet

(b) 9 meters by 3 meters: _____ square meters

(c) 4 inches by 4 inches: _____ square inches

(d) 8 centimeters by 5 centimeters: _____ square centimeters

(e) 2 meters by 10 meters: _____ square meters

(f) 3 inches by 6 inches: _____ square inches

ANSWER

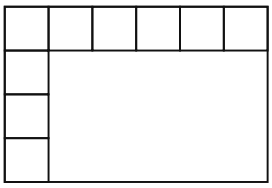
(a) 28 square feet (b) 27 square meters (c) 16 square inches (d) 40 square centimeters (e) 20 square meters (f) 18 square inches

SOLUTION

Multiply the length by the width. Both sides are in the same unit, so the area is in square units of it.

(a) $4 \times 7 = 28$ (b) $9 \times 3 = 27$ (c) $4 \times 4 = 16$ (d) $8 \times 5 = 40$ (e) $2 \times 10 = 20$ (f) $3 \times 6 = 18$

2. Jin starts to cover a drawer bottom with inch squares. What is the area of the whole drawer bottom?



ANSWER

24 square inches

SOLUTION

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The top row shows that 6 inch squares fit across the drawer bottom. So every row has 6 squares.

The left side shows that 4 rows fit down it.

The drawer bottom is 4 rows of 6: 4 × 6 = 24. Check by skip-counting: 6, 12, 18, 24. The area is 24 square inches.

3. Noah's rabbit pen is 7 feet long and 5 feet wide. He says its area is 35 feet. What is wrong? Write the right area.

ANSWER

The unit is wrong. The area is 35 square feet.

SOLUTION

Noah multiplied correctly: 5 × 7 = 35.

But area counts squares 1 foot on each side, not lengths. There are 5 rows of 7 such squares.

So the area is 35 square feet. "35 feet" would be a length.

4. Hiro's garden bed is 6 feet long and 3 feet wide. He makes it 2 feet longer. How much area does he add?

ANSWER

6 square feet

SOLUTION

Before: 3 × 6 = 18 square feet.

After: the bed is 8 feet long, so it is 3 × 8 = 24 square feet.

He adds 24 − 18 = 6 square feet. Check: the new part is 3 rows of 2, and 3 × 2 = 6.

5. Grace has three photos of different shapes. Each one covers 24 square inches. Fill in the missing sides.

8 inches by _____ inches 6 inches by _____ inches

3 inches by _____ inches

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ANSWER

3 inches, 4 inches, 8 inches

SOLUTION

Find the number that times the given side makes 24.

8 × 3 = 24, so the first is 3 inches. 6 × 4 = 24, so the second is 4 inches. 3 × 8 = 24, so the third is 8 inches.

The photos have the same area, but different shapes.

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