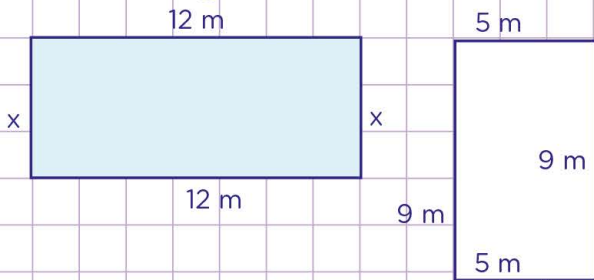


Name: Class:

Rectangles: relationship between perimeter and area

Perimeter is the sum of all the lengths of a given figure.

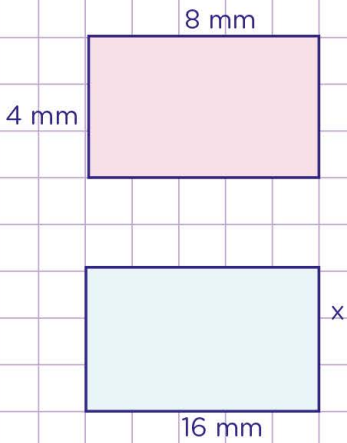
1. The rectangles below have the same perimeter.



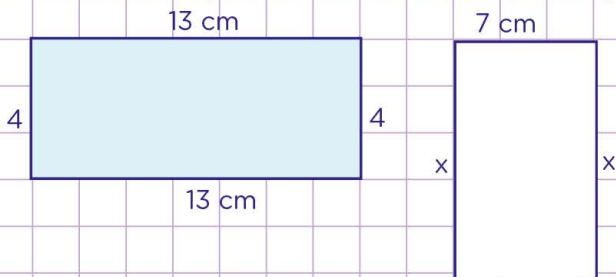
What is the area of the shaded rectangle?

2. The rectangles below have the same area.

What is the perimeter of the blue rectangle?



3. The rectangles below have the same perimeter.



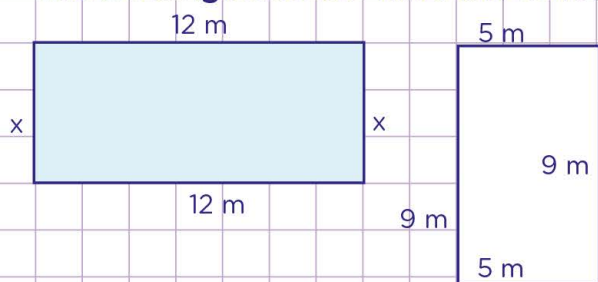
What is the area of the white rectangle?

Name: Class:

Rectangles: relationship between perimeter and area

Perimeter is the sum of all the lengths of a given figure.

1. The rectangles below have the same perimeter.



What is the area of the shaded rectangle?

Let's first of all find the perimeter of the unshaded rectangle.

Perimeter = sum of all the lengths.

$$9 + 5 + 9 + 5 = 28$$

So, both rectangles have perimeter of 28 meters.

Now, find the missing side lengths (x) of the shaded rectangle by using the perimeter above.

Perimeter of all the lengths.

$$28 = 12 + x + 12 + x$$

$$28 = 24 + 2x$$

$$2x = 28 - 24$$

$$x = 4/2$$

$$x = 2$$

So, the rectangle has sides = 12 m by 2 m by 12 m by 2 m.

Now, find the area of the shaded rectangle.

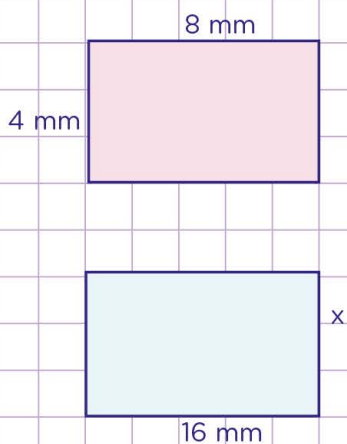
Area = length x width

$$= 12 \text{ m} \times 2 \text{ m}$$

$$= 24 \text{ m}^2$$

So, the area of the shaded rectangle is 24 square meters.

2. The rectangles below have the same area.



What is the perimeter of the blue rectangle?

Let's first of all find the area of the red rectangle = L x W.

$$\text{Area} = 8 \text{ mm} \times 4 \text{ mm} = 32 \text{ mm}^2$$

So, both rectangles have an area of 32 mm²

Secondly, use the area to find the missing length of the blue rectangle.

$$32 \text{ mm}^2 = 16 \text{ mm} \times (x)$$

$$x = 32 / 16 = 2 \text{ mm}$$

Now, perimeter of the blue rectangle = sum of all lengths.

$$16 \text{ mm} + 2 \text{ mm} + 16 \text{ mm} + 2 \text{ mm} = 36 \text{ mm}$$

So, the perimeter is 36 mm.