

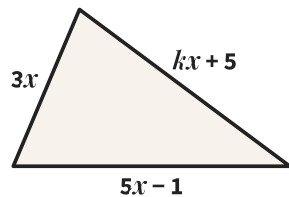
Forming and Solving Equations: Perimeter

ANSWERS

1



The perimeter of this triangle is 1 m.
The lengths are in centimetres. $x = 8$.
Find the value of k .



Not drawn accurately

$$39 + 24 + 8k + 5 = 100$$

$$8k + 68 = 100, 8k = 32$$

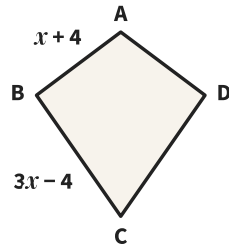
$$k = 4$$

Answer

2



ABCD is a kite. Its perimeter is 48 cm.
Find x .



Not drawn accurately

$$AD = AB \text{ and } CD = CB$$

$$2(x + 4) + 2(3x - 4) = 48, 8x = 48$$

$$x = 6$$

Answer

3



This shape is made from a square and an equilateral triangle. Its perimeter is 55 cm. Find x .



Not drawn accurately

$$5 \text{ sides on the outside: } 5(2x - 3) = 55$$

$$2x - 3 = 11, 2x = 14$$

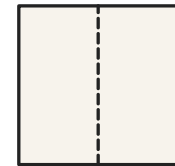
$$x = 7$$

Answer

4



A square is cut into two identical rectangles. Each rectangle has a perimeter of 42 cm. Find the side length of the square.



Not drawn accurately

$$\text{each rectangle is } x \text{ by } 2x: 6x = 42$$

$$x = 7, \text{ so the square is } 2 \times 7$$

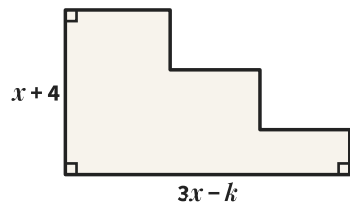
$$14 \text{ cm}$$

Answer

5



The perimeter of this shape is 60 cm.
All the lines meet at right angles. $x = 7$.
Find the value of k .



Not drawn accurately

$$\text{steps add up: width } 21 - k, \text{ height } 11$$

$$2(21 - k) + 22 = 60, 21 - k = 19$$

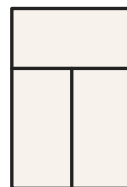
$$k = 2$$

Answer

6



This shape is made from three identical rectangles. Its perimeter is 90 cm. Find x .



$$2x - 1$$

Not drawn accurately

$$\text{long side} = 2 \text{ short sides: } 10 \text{ short sides}$$

$$10(2x - 1) = 90, 2x - 1 = 9$$

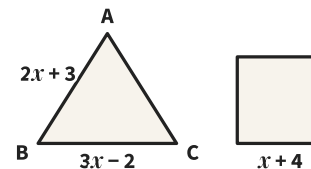
$$x = 5$$

Answer

7



ABC is a triangle with $AB = AC$.
The perimeter of the triangle is 6 cm more than the perimeter of the square.
Find x .



Not drawn accurately

$$2(2x + 3) + 3x - 2 = 4(x + 4) + 6$$

$$7x + 4 = 4x + 22, 3x = 18$$

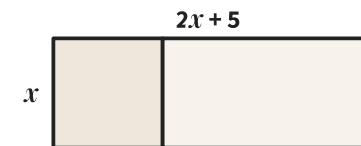
$$x = 6$$

Answer

8



The shaded square is cut off this rectangle. The rectangle left has a perimeter of 34 cm. Work out the perimeter of the original rectangle.



Not drawn accurately

$$\text{left: } x + 5 \text{ by } x, \text{ so } 2(2x + 5) = 34, x = 6$$

$$2(17 + 6) = 46$$

$$46 \text{ cm}$$

Answer