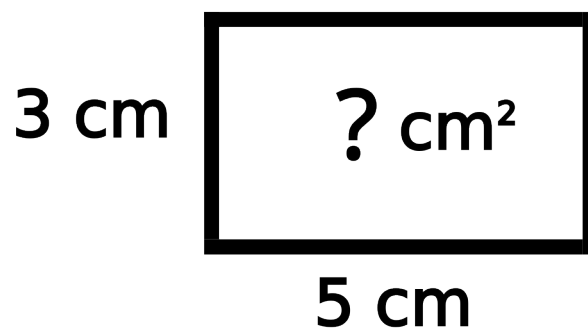


What is your **mathematical thinking level**?   ver. 2024-08-02

If you think you are already good at math, why don't you try to solve each problem within 100 seconds? It will be more thrilling and more enjoyable!

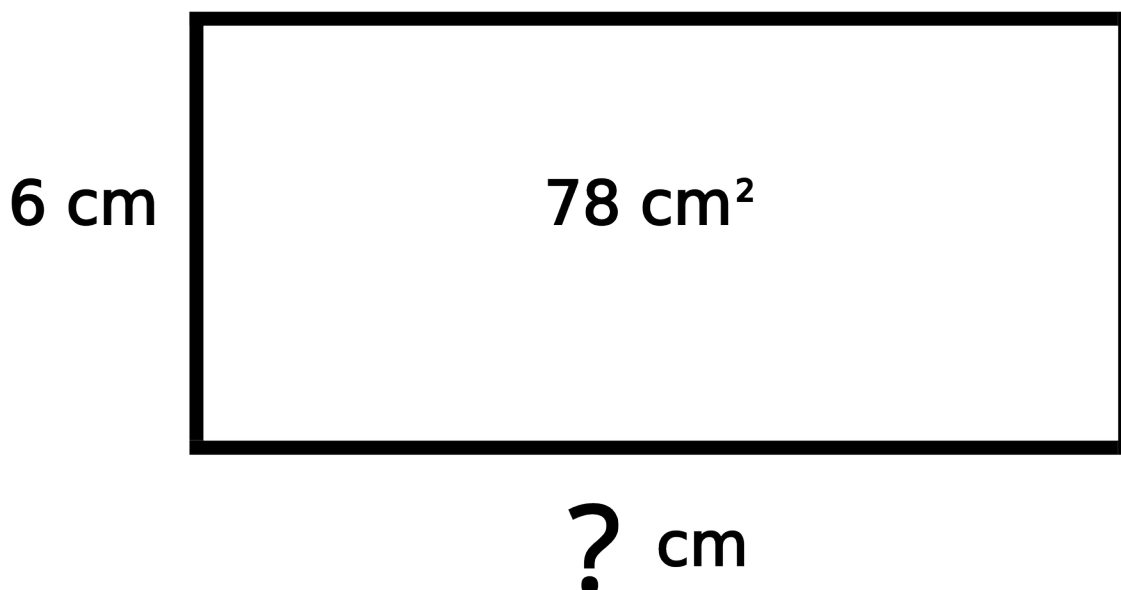
**Thinking Lv. 4**   < Do You know basics? >

Find the area of the rectangle.



**Thinking Lv. 7**   < Are you sure you know basics? >

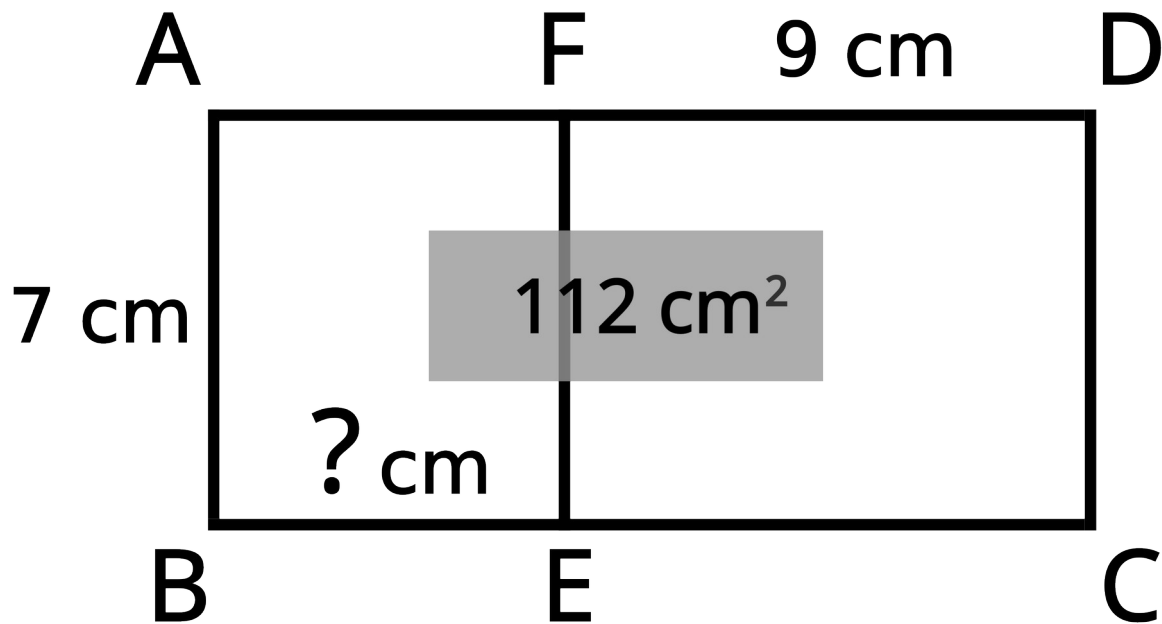
Find the width of the rectangle.



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Thinking Lv. 12 < Can you handle a twist? >

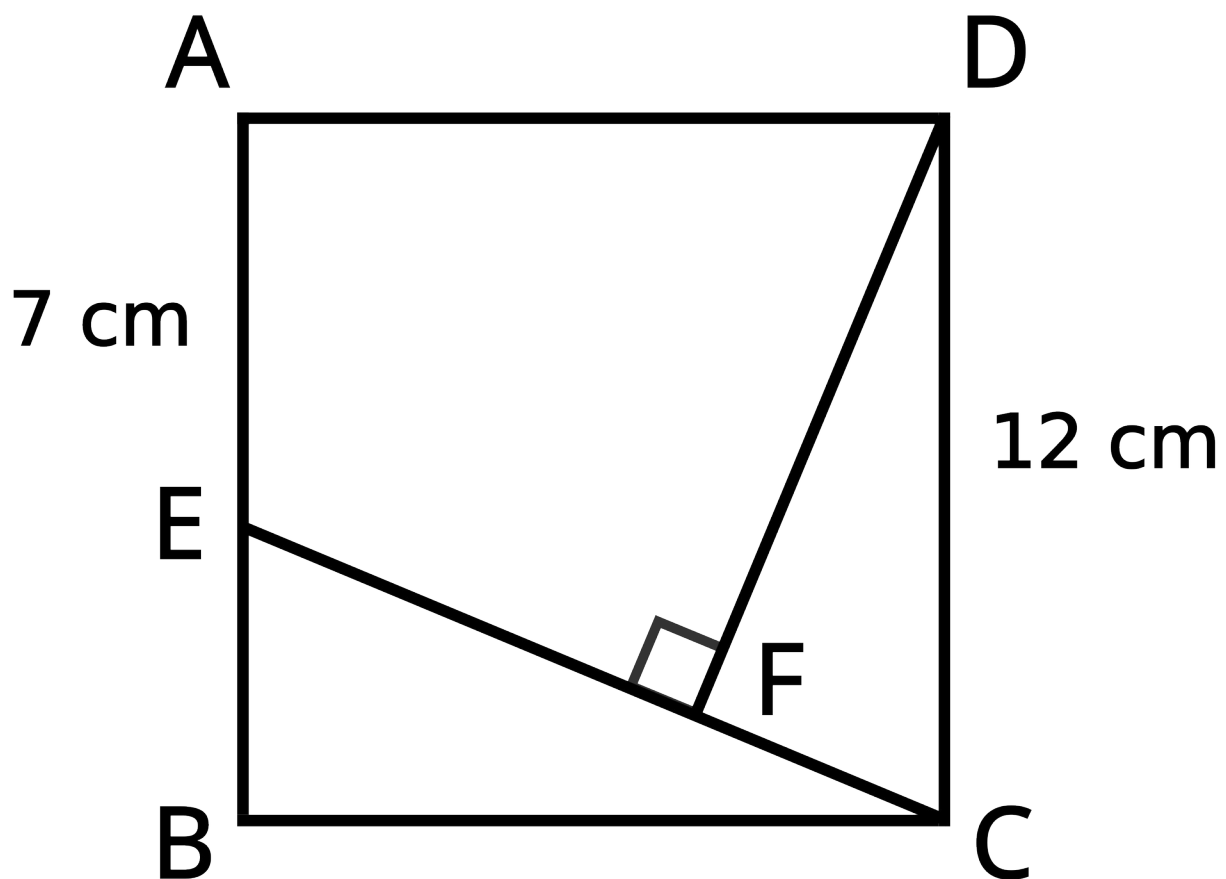
ABCD makes a rectangle, and line segment FE is parallel to AB. The area of rectangle ABCD is  $112 \text{ cm}^2$ ,  $AB = 7 \text{ cm}$ , and  $FD = 9 \text{ cm}$ . Find the length of line segment BE,



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**Thinking Lv. 25** < Are you sure you are good at math? >

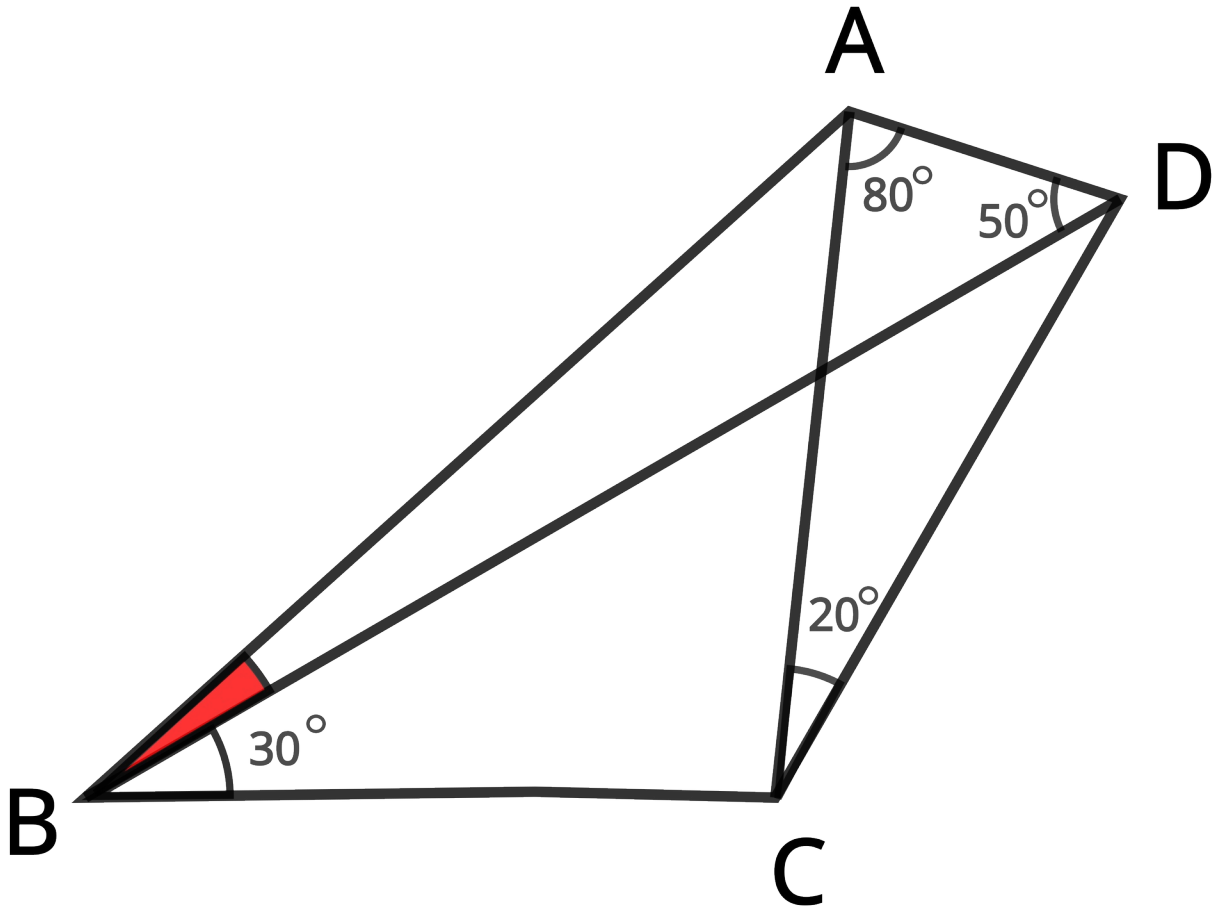
The shape of a typical origami sheet is square, and its dimensions are 12 cm x 12 cm. First, cut an origami sheet into three parts as shown: triangle BCE, triangle CDF, and quadrilateral AEFD with  $AE = 7$  cm. Then, make a rectangle using these three parts and putting them together without any overlap or gap. Now find the perimeter of this rectangle.



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Thinking Lv. 33 < Are you sure you are not too confident? >

Find the measurement of angle ABD.



What is your [mathematical thinking level](#)?    ver. 2024-08-02

**Thinking Lv. 71**    < Do you get as challenging problems at school? >

Consider quadrilateral ABCD, where line segments  $CD = DA = 10$  cm, angle  $BAD = 90$  degrees, and angle  $ABC = \text{angle } DCB = 67.5$  degrees. Find the area of quadrilateral ABCD.

**Thinking Lv. 86**    < If you want to be a scientist, this is just a start. >

Consider quadrilateral EFGH, where angle  $HEF = 108$  degrees, angle  $EFG = 168$  degrees, and line segments  $EF = FG = HE$ . Find the measurement of angle H.