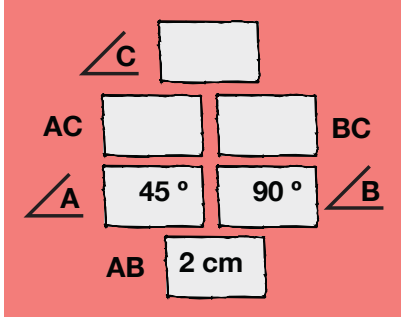
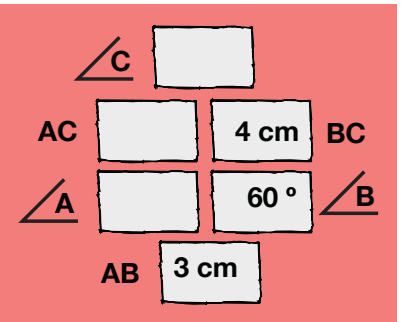


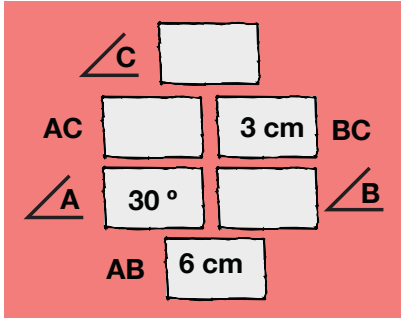
Triangles to Order

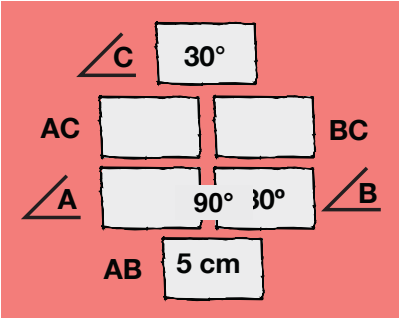
Instructions

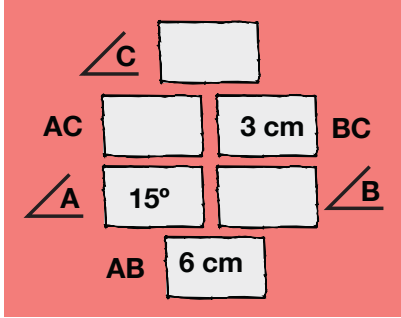
Tell whether you can make 0, 1, 2, or many triangles to meet each set of specifications. If 1, make the triangle. If 2, make both of them. If many, make 3 different triangles that fit all the conditions. And if 0, explain why it's impossible to make such a triangle (a diagram can help!).

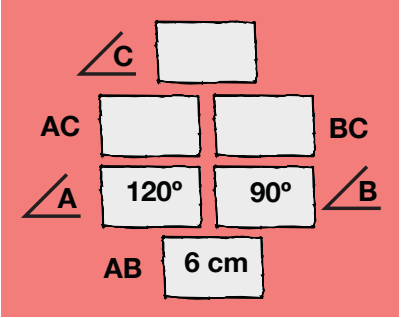
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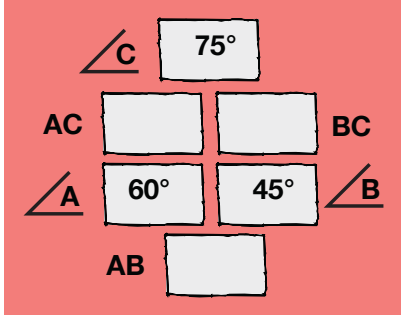
One triangle (ASA).
- 

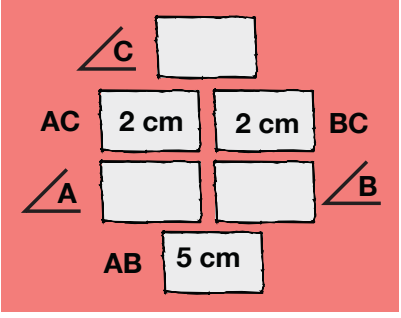
One triangle (SAS).
- 

One triangle (Hypotenuse-leg; angle C is 90°).
- 

One triangle (Two angles give a third—60°—and you have ASA. This result is similar to #3).
- 

Two triangles (SSA). If you make side AB (6 cm) and angle A (15°), you now have to figure out side BC (3 cm). Imagine it swinging from point B. It can rest its end on the line coming out of A in two places, marked C1 and C2. Either of these could be the third vertex of the triangle.
- 

No triangles. Sum of angles is too great.
- 

Many triangles, all similar (Sum of angles is 180°).
- 

No triangles, because of the triangle inequality: the two 2-cm sides are not long enough to meet opposite the 5-cm side.