

# Exemple 3b

**b) Construct a triangle with one side measuring 7 cm and 2 of the angles measuring  $60^\circ$  each.**

## STRATEGY

### Construction Using a Protractor and a Ruler

When one side length and two of the angles of a triangle are known, a protractor and a ruler can be used to construct the triangle. The unknown vertex is the point where the arms of the angles intersect.

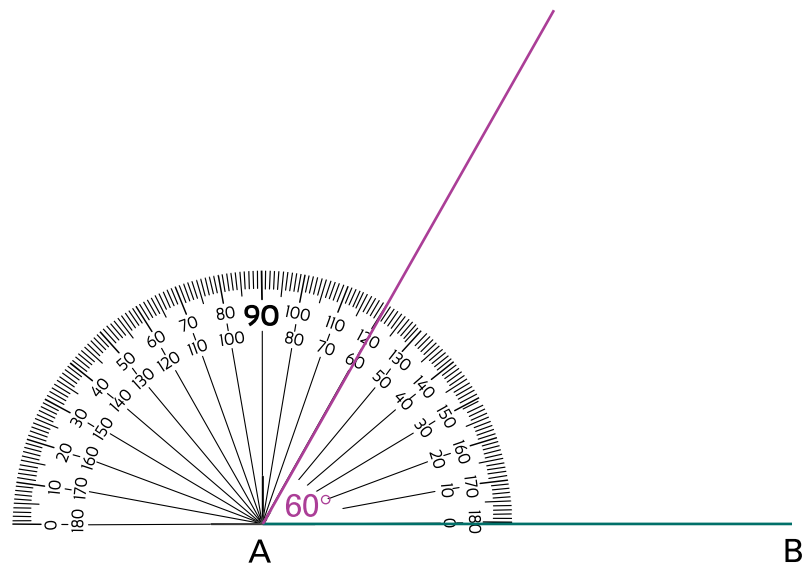
Here are the steps I need to follow to construct my triangle :

1. Using a ruler, I draw a 7 cm segment.

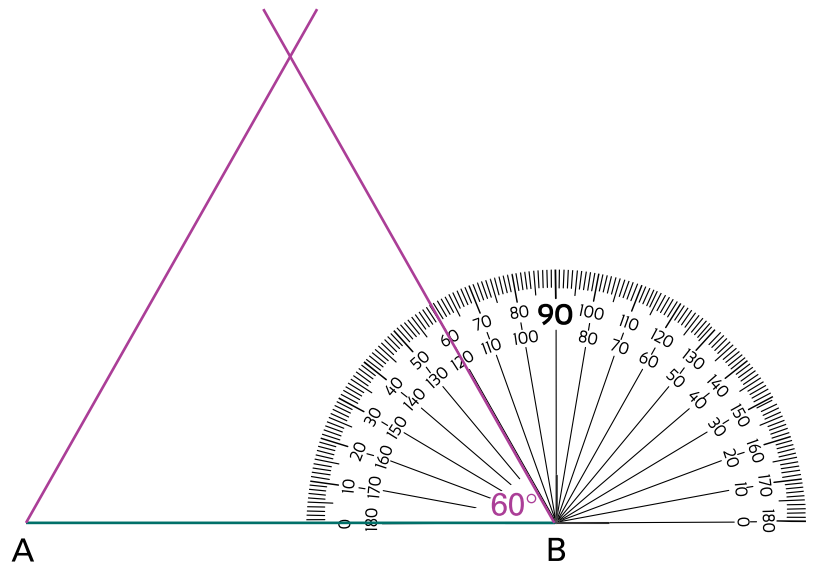


2. I place the protractor's base line on the segment, making sure the center mark is on one of the segment's ends.

3. I find the  $60^\circ$  measure on the protractor and make a mark.



- I draw a line from the end of segment AB to the mark to form the  $60^\circ$  angle.
- I repeat steps 2 to 4 for the other end of the segment.
- I extend both sides to form triangle ABC.



- Using the protractor, I measure the 3 angles. Triangle ABC is an acute triangle, since all angles are less than  $90^\circ$ .
- Using a ruler, I measure all sides. Triangle ABC is an equilateral triangle since all sides are equal.

