

Name _____ Date _____

1. If possible, draw and label triangle DEF so that side \overline{DE} is $1\frac{1}{2}$ inches long, side \overline{EF} is 2 inches long, and the measure of the included angle, $\angle E$, is 100° .
2. Is it possible to draw another triangle so that one side is $1\frac{1}{2}$ inches long, another side is 2 inches long, and the measure of the included angle is 100° while the remaining side and angles have measures different from those of triangle DEF ? Explain.

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Determine if each set of lengths can be used to construct a triangle. If not, explain why not.

1. 5 cm, 8 cm, 12 cm

2. 12 in., 12 in., 12 in.

3. 3 ft, 6 ft, 10 ft

4. In general, what must be true of three lengths in order for them to construct a triangle?