## Unit 1 Lesson 17 Cumulative Practice Problems

1. Use a protractor to try to draw each triangle. Which of these three triangles is impossible to draw?
	1. A triangle where one angle measures $20^{∘}$ and another angle measures $45^{∘}$
	2. A triangle where one angle measures $120^{∘}$ and another angle measures $50^{∘}$
	3. A triangle where one angle measures $90^{∘}$ and another angle measures $100^{∘}$
2. A triangle has an angle measuring $90^{∘}$, an angle measuring $20^{∘}$, and a side that is 6 units long. The 6-unit side is in between the $90^{∘}$ and $20^{∘}$ angles.
	1. Sketch this triangle and label your sketch with the given measures.
	2. How many unique triangles can you draw like this?
3. A triangle has sides of length 7 cm, 4 cm, and 5 cm. How many unique triangles can be drawn that fit that description? Explain or show your reasoning.
4. A triangle has one side that is 5 units long and an adjacent angle that measures $25^{∘}$. The two other angles in the triangle measure $90^{∘}$ and $65^{∘}$. Complete the two diagrams to create two *different* triangles with these measurements.
* 
1. Is it possible to make a triangle that has angles measuring 90 degrees, 30 degrees, and 100 degrees? If so, draw an example. If not, explain your reasoning.



© CC BY Open Up Resources. Adaptations CC BY IM.