## Lesson 17 Practice Problems

1. Use a protractor to try to draw each triangle. Which of these three triangles is impossible to draw?
a. A triangle where one angle measures $20^{\circ}$ and another angle measures $45^{\circ}$
b. A triangle where one angle measures $120^{\circ}$ and another angle measures $50^{\circ}$
c. A triangle where one angle measures $90^{\circ}$ and another angle measures $100^{\circ}$
2. A triangle has an angle measuring $90^{\circ}$, an angle measuring $20^{\circ}$, and a side that is 6 units long. The 6 -unit side is in between the $90^{\circ}$ and $20^{\circ}$ angles.
a. Sketch this triangle and label your sketch with the given measures.
b. How many unique triangles can you draw like this?
3. A triangle has sides of length $7 \mathrm{~cm}, 4 \mathrm{~cm}$, 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 $25^{\circ}$. The two other angles in the triangle measure $90^{\circ}$ and $65^{\circ}$. Complete the two diagrams to create two different triangles with these measurements.

5. 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.
