## Section 2: SOHCAHTOA

Task 1 - Communication: Summarize what you learned about the topics in this lesson in the box below. You may use sentences, point form, diagrams, equations, sample problems, or anything else you think will communicate the main learnings of this section.
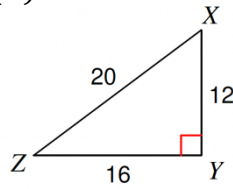
Task 2 - Knowledge: Complete the following practice questions

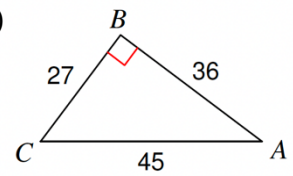**1)** Find the value of each trig ratio. Leave as an exact answer.

a) $\tan(A)$
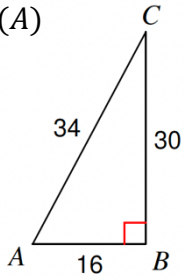
b) $\sin(X)$

c) $\cos(C)$

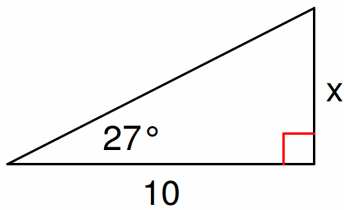**2)** Use a calculator to find the value of each. Round to 2 decimal places if necessary.

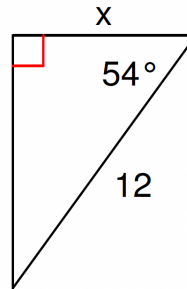**a)** $\sin(20°)$

b) $\cos(30°)$

c) $\tan(40°)$

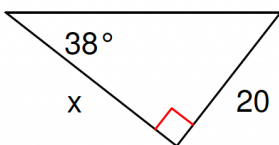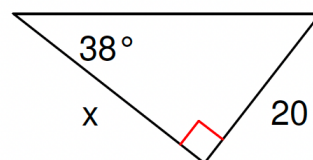**3)** Solve for the indicated side length in each triangle. Round to 2 decimal places if necessary.
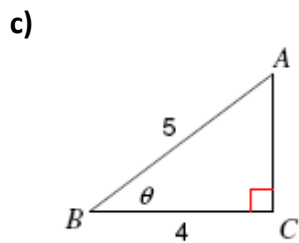
a)

b)

c)

d)

4) Solve for the indicated angle in each triangle. Round to 2 decimal places if necessary.

a)

b)

c)

d)
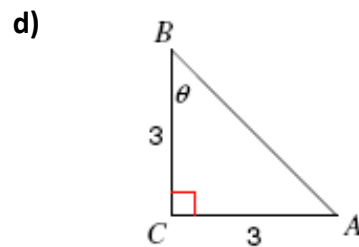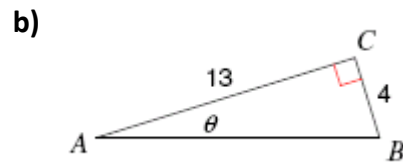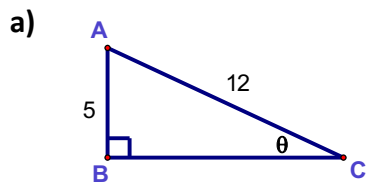
5) Solve the following triangle.
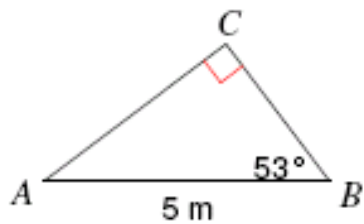
Task 3 – Thinking:

a) Explain why the value of the sine ratio for a given angle depends only on the measure of the angle and not on the size of the right triangle.

b) Explain how you can identify the opposite and adjacent sides of a right triangle and explain how these can change in any given triangle. Use a diagram to support your explanation.

c) Explain what the tangent and inverse tangent calculator functions do. When would you use each function?

Task 4: Application

a) From the top of a building, the angle of elevation of the top of a nearby building is 28° and the angle of depression of the bottom of the nearby building is 48°. The distance between the two buildings is 50 m. **What is the height of the taller building?** Round your answer to the nearest meter.
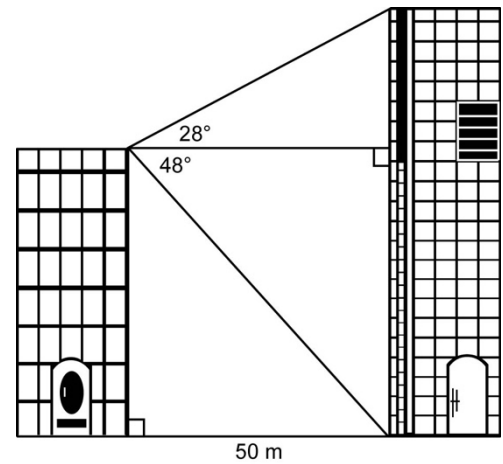
b) From the bridge of a boat on the Niagara River, the angle of elevation of the top of the Horseshoe Falls is 64°. The angle of depression of the bottom of the Falls is 6°. If the bridge of the boat is 2.8 m above the water, calculate the height of the Horseshoe Falls, to the nearest tenth of a meter.