MAP 4C Review: Trigonometry Name: _____

Part 1: Multiple Choice

1. In triangle ABC, <C = 90°, a = 36 cm, b = 15 cm, and c = 39 cm. What is the best estimate of cos A?

   a. 1.08 b. 2.40 c. 0.38 d. 2.60

2. Refer to question 5. Which is the measure of angle A to the nearest degree?

   a. 21° b. 47° c. 23° d. 67°

3. In triangle PQR, P=100°, q = 18 m, and r = 20 m. What strategy could you start with to solve this triangle?

   a. Sine law
   b. Cosine Law
   c. Pythagorean theorem
   d. There is not enough information to solve this triangle

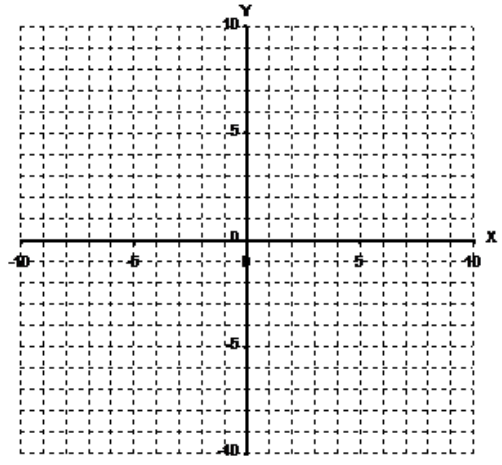
4. When you know all three side lengths in an acute triangle, which strategy can you use to solve for one of the missing angles?

   a. Sine law
   b. Cosine Law
   c. Pythagorean theorem
   d. There is not enough information to solve this triangle

5. The cosine of an obtuse angle, Θ, in standard position is $-\frac{4}{5}$. Which point lies on the terminal arm of <Θ?
   a. (-4,3)
   b. (-4,5)
   c. (4,-3)
   d. (-3,4)

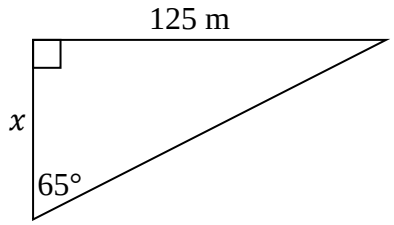
Part 2: Full Solution Questions

6. The point P(-3,5) lies on the terminal arm of a angle, β, in standard position.
   a. Sketch angle β in standard position.
   b. Determine the primary trigonometric ratios, **rounded to three decimal places.**
   c. Determine the measure of angle β.

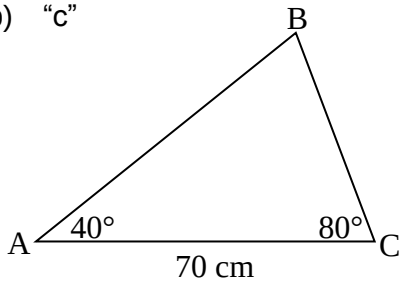


7. Determine the length of each indicated side.

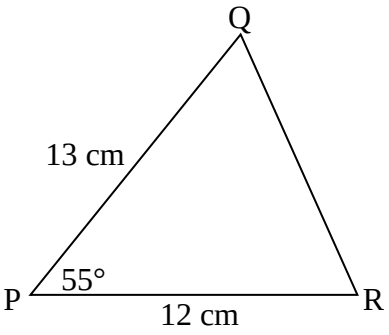
a) "x"



b) "c"



c) "p"

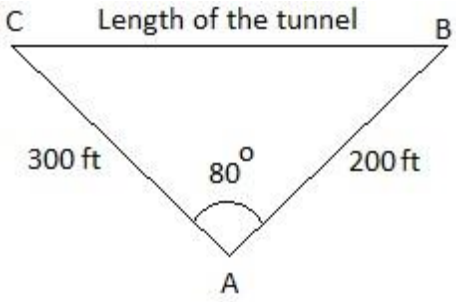


8. In triangle XYZ, x = 8 cm, y = 20 cm, and z = 13 cm. Find the measures of angles X, Y, and Z.

9. A 24-foot long guy wire is attached to a tower at a point 20 feet above the ground. Find the angle of elevation made by the wire with respect to the ground.

10. On his trip to Niagara Falls, Ontario, Simon notices a tall building. He decides to use his math skills to calculate its height. From a certain point, the angle of elevation to the top of the building is 40°. From a point 60 m closer to the building, the angle of elevation to the top of the building is 68°. Calculate the height of the building, to the nearest tenth of a metre.

11. Anna is standing at point A, 300 ft from one end of a tunnel and 200 feet from the other end, as shown in the diagram. Calculate the length of the tunnel.



12. From a window that is 4.9 m above the ground, Jill can see a tree across the street. The angle of elevation from the window to the top of the tree is 16° and the angle of depression from the window to the bottom of the tree is 40°. Determine the height of the tree.

13. A hockey net is 1.83 m wide. During a game, a player shoots the puck at the net from a point that is 12.8 m from the left goal post and 14.1 m from the right goal post. Within what angle does he need to shoot in order to score?