**SOH CAH TOA, PYTHAGOREAN THEOREM REVIEW**

1. Find the missing side or angle.



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1. Danny is building a ski jump with an angle of elevation of 15o and a ramp length of 4.5 m. How high will the ski jump be?
2. Determine the missing angles.



1. A triangular lot is located at the intersection of two perpendicular streets. The lot extends 350 feet along one street and 450 feet along the other street, as shown in the diagram below.



1. What angle does the third side of the lot make with each road?
2. What is the perimeter of the lot? Explain your strategy.
3. A ship navigator knows that an island harbor is 20 km north and 35 km west of the ship’s current position. On what bearing (at what angle) could the ship sail directly to the harbor?

**OBTUSE ANGLES REVIEW**

1. Use a diagram to explain why the cos and tan of an obtuse angle is negative, but the sin of an obtuse angle is positive.
2. Is each trigonometric ratio positive or negative? Explain how you know.
3. Tan 53o
4. Cos 96o
5. Sin 132o
6. Is angle B acute or obtuse? Explain.
7. tan B = 1.6 b) cos B = 0.35 c) cos B = -0.9945 d) sin B = 0.7
8. Explain why sin A = 0.52 could be for two different angles. What are the two possible angles?
9. Determine the measure of each obtuse angle.
10. sin R = 0.93 b) cos D = -0.56 c) tan A = -0.1746 d) sin B = 0.36

**SINE LAW REVIEW**

1. Use the Sine Law to determine x and y.



1. Determine the length of sides p and q and explain your strategy.



1. Sketch a diagram of each triangle, then solve for the missing sides and angles.
2. angle M = 48o, angle N = 105o, side l = 17 m
3. angle H = 21o, angle J = 57o, side h = 9’ 6”
4. Lani received the specifications for two different triangular sections of a sailboat sail, as shown in the diagram below. (HINT: You might have to use more than just the Sine Law.)
5. Determine angle A, if side a = 5.5 m, side b = 1.0 m, and angle C = 134o
6. Determine angle E, if side d = 7.75 m, side e = 9.25 m, and angle F = 45o



1. One side of a triangular lot is 2.6 m long. The angles in the triangle at each end of the 2.6 m side are 38o and 94o. Determine the lengths of the other two sides of the lot.

**COSINE LAW REVIEW**

1. Explain why you would use the Cosine Law to determine the length of side q.



1. Sketch and label a triangle with side b = 7.5 km, side d = 4.3 km and angle C = 131o. Solve for all missing sides and angles.
2. Determine angle Q.



1. Sketch each triangle and find the missing angle.
2. side m = 3.6 m, side n = 10.7 m, side o = 730 cm. Find angle N.
3. side c = 66 feet, side d = 52 feet, side e = 59 feet. Find angle D.
4. Jane is drawing a geocaching map that shows the location of three objects at each campsite. Find the missing angles.



1. A machinist is cutting out a large triangular piece of metal to make a part for a crane. The sides of the piece measure 4’ 10”, 3’ 10” and 5’ 2”. Find the missing angles.

**APPLICATIONS OF TRIGNOMETRY REVIEW**

1. Renee and Andi volunteered to help scientists measure the heights of trees in old-growth forests in Algonquin Park. The two volunteers are 20 m apart on opposite sides of an aspen. The angle of elevation from one volunteer to the top of the tree is 65o, and from the other, 75o. What is the height of the tree?
2. Determine the length, x, of the lean-to roof attached to the side fo the cabin.



1. Two ferries leave dock B at eh same time. One travels 2900 m on a bearing of 98o; the other travels 2450 m on a bearing of 132o. Use the diagram below to determine b, the distance between the ferries.



1. Determine the length of sides s and t.

