

## Chapter 5 Trigonometry Part 1 Review

Use a calculator to find each. Round your answers to the nearest ten-thousandth.

1)  $\sec 88^\circ$

2)  $\tan 60^\circ$

3)  $\csc 50^\circ$

4)  $\cos 80^\circ$

Find each angle measure to the nearest degree.

5)  $\cos W = 0.6157$

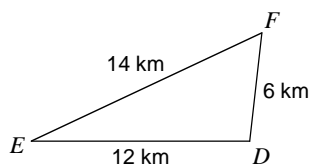
6)  $\csc C = 1.9703$

7)  $\cot Z = 0.9659$

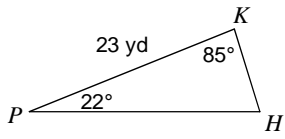
8)  $\sin V = 0.9511$

Solve each triangle. Round your answers to the nearest tenth.

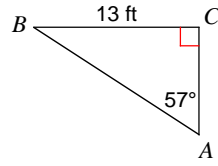
9)



10)



11)



Q12- An oblique triangle has sides  $a = 3.5\text{cm}$ ,  $b = 4.6\text{cm}$ , and angle  $A = 28^\circ$ .

a) Is this an ambiguous case?

b) What is the angle B (or the two possible angles if this is ambiguous)?

c) What is the angle C (or the two possible angles if this is ambiguous)?

d) What is the length of side c (or the two possible lengths if this is ambiguous)?

Q13- An oblique triangle has angles  $A = 44^\circ$ ,  $B = 58^\circ$  and side  $b = 16.8\text{cm}$ .

a) Is this an ambiguous case?

b) What is the angle C (or the two possible angles if this is ambiguous)?

c) What is the length of side  $c$  (or the two possible lengths if this is ambiguous)?

Q14- An oblique triangle has sides  $a = 56\text{cm}$ ,  $b = 35\text{cm}$ , and  $c = 44\text{cm}$ . What are all the angles in the triangle?

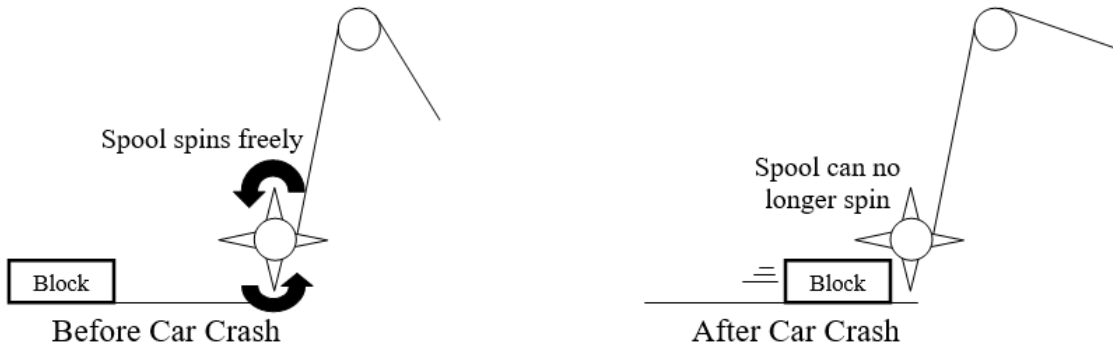
Q15- A triangle has sides  $a = 45\text{m}$ ,  $b = 36\text{m}$  and angle  $C = 61^\circ$ . What is the missing side? What are the missing angles?

Q16- Two hikers are on opposite sides of a wooden plank bridge that spans a canyon. They are each 765 meters above the bottom of the canyon. They both site the same landmark on the bottom of the canyon floor. The angles of depression from each hiker are 38 degrees and 24 degrees. How long is the wooden plank bridge?

Q17- Nicole shines a light from a window of a lighthouse on a cliff 250 feet above the water level. Nick, 10 feet above the water level in a ship off shore, finds that the angle of elevation of the light is  $3^\circ$ . Find the length of the line of sight (light beam) from the ship to Nicole. Round to the nearest tenth.

Q18- A teacher is on the roof of the school (7.5 metres), standing close to the edge. He looks out and notices two students, Emma and Paul, on opposite ends of the parking lot. Using his angle measuring device, he calculates that the angle of depression to Emma is 30 degrees, the angle of depression to Paul is 22 degrees, and the angle between them is 115 degrees. How far apart are Emma and Paul?

Q19- Have you ever wondered how seatbelts keep you from flying forward during a car crash? Seatbelts are wrapped around a spool with long protruding spikes. If your car suddenly jolts to a stop, a large block slides underneath the spool's spikes and locks the spool:



The vertical distance between the two spools is 106.73 cm, and the horizontal distance between the two spools is 15 cm. Before the crash, the angle of elevation between the block and the top spool was  $65^\circ$ , but after the crash, the elevation angle became  $82^\circ$ . How far did the block slide? Include a diagram