Trigonometry Exam 1- Test Prep

Degrees, Minutes, and Seconds

Convert 7.237 ° into DMS. Round to the nearest second

Convert 34.579 ° into DMS. Round to the nearest second. (Do This one by hand!)

Convert 8 ° 29’ 5” into a decimal. Round to the nearest thousandth.

Convert 10 ° 30’ 2” into a decimal. Round to the nearest thousandth. (Do this one by hand)

Angle Relationships

What is the least positive coterminal angle of 750 °?

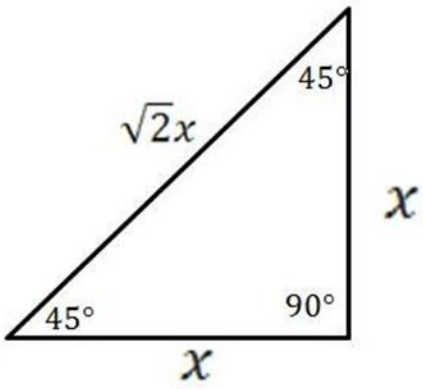
What is the least positive Coterminal angle of -1080?

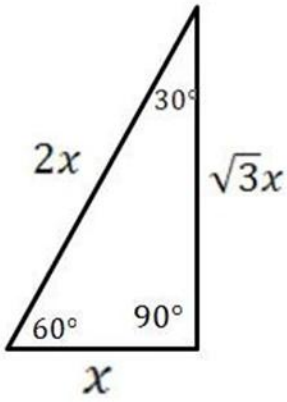
Pythagorean Theorem

Triangle ABC has side A= 5cm, and B= 6cm. What is the length of side C? Round to the nearest tenth.

Triangle PQR has P=3cm, and R=5cm. Find the missing side using Pythagorean Theorem.

Special Right Triangle:





There is a 30°-60°-90° Triangle. X = 5. Find the other sides of the triangle.

There is a 45°-45°-90° Triangle X√2= 9. Find the other sides of the triangle.

<u>6 Trig Functions + Reference Angles</u>

	Sin	Cos	Tan	Csc	Sec	Cot
30 °						
45 °						
60 °						

What is the value of the Reference angles of the three major trig functions at 225 ° and then write their value.

Find the reference angles for the three major trig functions at 150 ° and then write their value.

Find the reference angles for the three major trig functions at 300 ° and then write their value.

Triangle ABC has <A=30 °, and side a=8.967cm and find side b assuming ABC is a right triangle.

Triangle ABC has <A=70 °, and side a=5.732cm. Find the side c and all missing sides and angle assuming that Triangle ABC is a right triangle.

Grade Resistance:

$F=W\sin\theta$

1. The car weighing 1500lbs is going uphill at 4.56°. Find the grade resistance. Show all your steps.

2. The car weighing 970lbs is going downhill at 7.74°. Find the grade resistance. Show all your steps.

<u>Angle of Elevation and Depression</u>

1. A student stands 40 meters away from the base of a flagpole. The angle of elevation from the student's eye level to the top of the flagpole is 32°.
   How tall is the flagpole (to the nearest tenth of a meter)?

2. A lighthouse sits on top of a 60-meter cliff overlooking the ocean. The angle of depression from the lighthouse to a boat in the water is 18°.
   How far is the boat from the base of the cliff (to the nearest meter)?

3. A firefighter is standing on top of a 12-meter-high building. The angle of depression to a fire hydrant on the ground is 41°.
   How far is the hydrant from the base of the building?