

Instructions: Please complete the following questions by researching online and watching video links. Please reach out to your teacher for help or guidance through email or Teams if needed. Live video tutorials are on Teams Wednesdays at 11am and will be recorded and posted on Teams to watch at your convenience.

Trigonometry

Watch the following videos and fill in the notes / answer the questions.

***** MAKE SURE YOUR CALCULATOR IS IN DEGREE MODE**

$$\sin\theta = \frac{\text{opposite}}{\text{hypotenuse}}$$

S^O_H

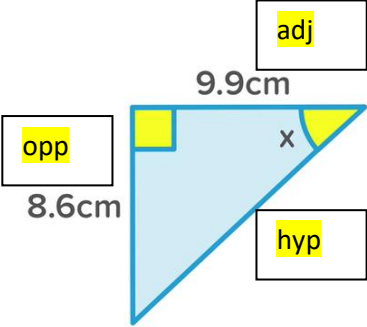
$$\cos\theta = \frac{\text{adjacent}}{\text{hypotenuse}}$$

C^A_H

$$\tan\theta = \frac{\text{opposite}}{\text{adjacent}}$$

T^O_A

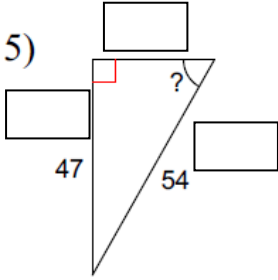
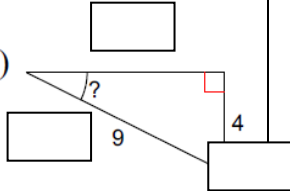
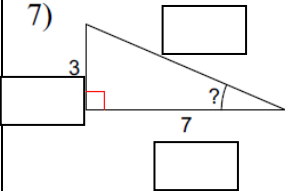
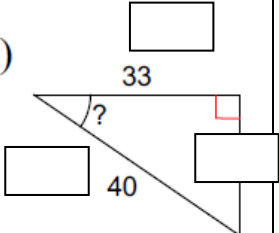
Finding missing angles: <https://www.youtube.com/watch?v=ZDXc41r-jro>

<p>Inverse trig functions</p> <p>(sin⁻¹) (cos⁻¹) (tan⁻¹)</p> <p>sin cos tan</p>	<p>How do you access these on your calculator?</p> <p>Most calculators you need to press "shift" or "2ndF" and the regular sin cos tan buttons</p>
	<ol style="list-style-type: none"> 1. Label sides (opp, adj, hyp) 2. Choose the correct formula based on the "active" sides tan – because it uses opp (8.6cm) and adj (9.9cm) 3. Fill in the formula: $\tan \theta = \frac{\text{opp}}{\text{adj}}$ $\tan x = \frac{8.6}{9.9}$ <p>You can do it the same way the video does, but usually I do it like you see below. You decide which makes more sense to you.</p> $\tan x = 0.8687\dots$ <p>keep all of the decimals in the calculator and then hit your shift or 2ndF and the tan button, =</p> $x = 41.0^\circ$

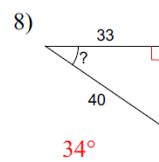
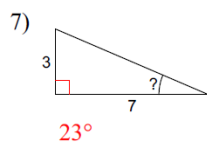
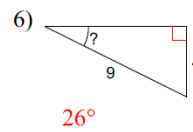
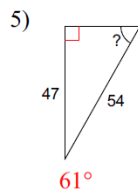
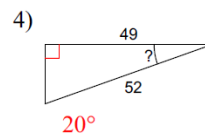
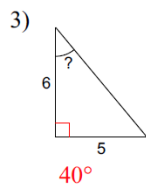
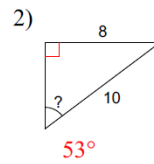
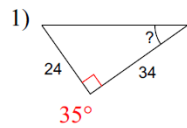
	<ol style="list-style-type: none"> 1. Label sides (opp, adj, hyp) 2. Choose the correct formula based on the "active" sides 3. Fill in the formula: $\cos \theta = \frac{adj}{hyp}$
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Find the missing angles in the following triangles. For every question, label your sides and write your formula. Round answers to the nearest degree.

<p>1)</p>	$\tan \theta = \frac{opp}{adj}$ $\tan x = \frac{24}{34}$ $\tan x = 0.7059$ $x = 35^\circ$	<p>2)</p>	
<p>3)</p>		<p>4)</p>	

<p>5)</p> 		<p>6)</p> 	
<p>7)</p> 		<p>8)</p> 	

I'm going to post the answers (without the work) below so you know if you did the questions correctly or not.

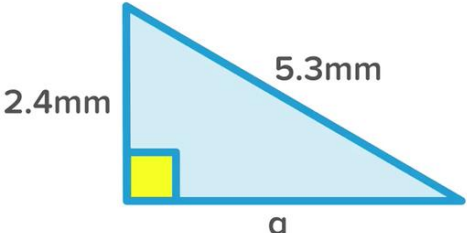
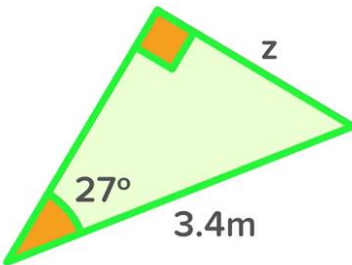
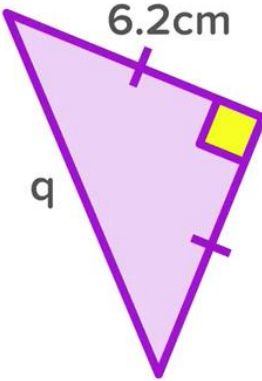


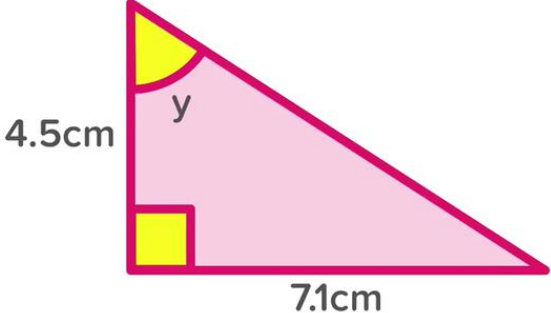
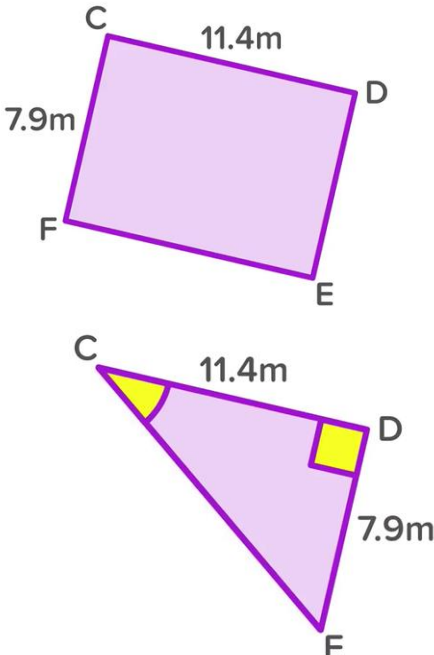
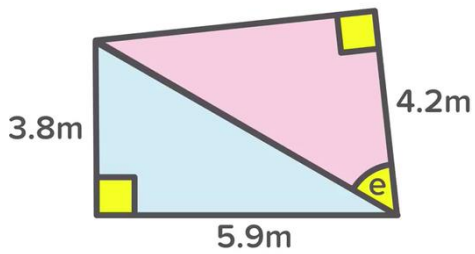
Combined Practice: <https://www.youtube.com/watch?v=CJ6PiXct-ls>

Fill in the comparison table from the video

‘SOHCAHTOA’	PYTHAG

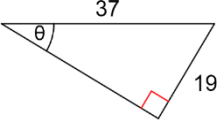
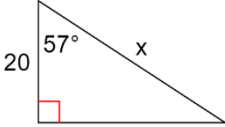
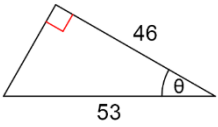
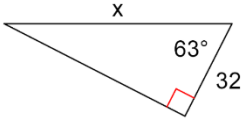
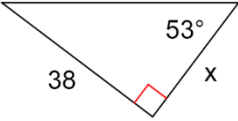
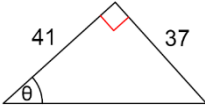
Use the video to help you find the answers. The video doesn’t show the formulas or most of the work, but I’d like you to in the space below.

	<ol style="list-style-type: none"> 1. Explain in your own words how to determine whether you use SOH CAH TOA or Pythagorean Theorem to find “q”. 2. Show the formula, the work, and the answer
	<ol style="list-style-type: none"> 1. Explain in your own words how to determine whether you use SOH CAH TOA or Pythagorean Theorem to find “z”. 2. Show the formula, the work, and the answer
	<ol style="list-style-type: none"> 1. Explain in your own words <u>why you can use both SOH CAH TOA and Pythagorean Theorem</u> to find “q”. 2. Show the formula, the work, and the answer using Pythagorean Theorem. 3. Show the formula, the work, and the answer using SOH CAH TOA.

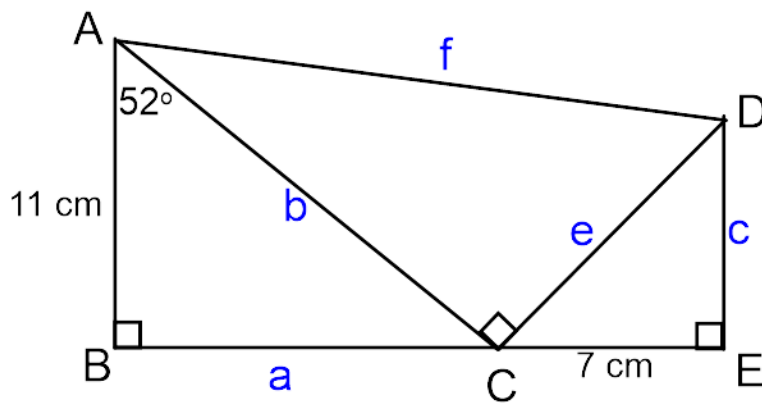
	<ol style="list-style-type: none"> 1. Explain in your own words how to determine whether you use SOH CAH TOA or Pythagorean Theorem to find "y". 2. Show the formula, the work, and the answer
<p>CDEF is a rectangle Calculate Angle DCE</p> 	<ol style="list-style-type: none"> 1. Explain in your own words how and why the person in the video creates the second image from the first image, in order to solve the problem of finding angle DCE. 2. Show the formula, the work, and the answer
<p>Find Angle 'e' Give your answer to 1 decimal place.</p> 	<p>Show and explain all the steps to answering the question, "find angle e".</p>

Practice questions:

1. Find the side lengths or missing angles in the following triangles. For every question, write your formula and show your work. Round answers to one decimal place for side lengths and to the nearest degree for angles.

2. Use your knowledge of angles, SOH CAH TOA and Pythagorean Theorem to find the missing sides and angles.



a:	$\angle ACB:$
b:	$\angle DCE:$
c:	$\angle CAD:$
e:	$\angle ADC:$
f:	$\angle CDE:$