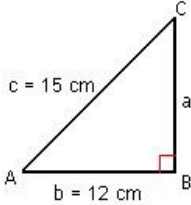


Proficiency Scale for Trigonometry (Chapter 4)			Sample Problems/ Clarifications
<b>A</b>	<b>Score 4.0</b>	In addition to 3.0 content, I can: • •	
	<b>3.5</b>	In addition to 3.0 content, partial success with with 4.0 content.	<i>“Partial success” means that the first few steps are correct, but major mistakes are made when completing the problem.</i>
<b>B</b>	<b>Score 3.0</b>	<p><b>I can:</b></p> <ul style="list-style-type: none"> <li>• Use the Unit Circle and basic trigonometric identities to evaluate the six trigonometric values of angles in radians and degrees.</li> <li>• Graph transformations of all six trigonometric functions.</li> <li>• Solve real-world problems involving right triangles, directional bearing, and harmonic motion.</li> </ul>	<ul style="list-style-type: none"> <li>• What is <math>\cot \frac{5\pi}{3}</math>?</li> <li>• If <math>\sin \theta = \frac{3}{5}</math> and <math>\frac{\pi}{2} \leq \theta \leq \pi</math>, find all six trig values.</li> <li>• Graph. <ul style="list-style-type: none"> <li><math>f(x) = -6 \sin \left( 2 \left( x - \frac{\pi}{3} \right) \right) + 1</math></li> <li><math>f(x) = \cos \left( \frac{3\pi}{4} (x + 5) \right) - 3</math></li> <li><math>y = \sec \left( \frac{1}{2} \left( x + \frac{\pi}{3} \right) \right) + 2</math></li> <li><math>y = \tan \left( \frac{2\pi}{3} (x - 1) \right) - 4</math></li> </ul> </li> </ul> <p>The restaurant at the top of the Space Needle has a radius of 47.25 ft and makes about one complete revolution every 48 minutes. A dinner party, seated at the edge of the restaurant 6:45 pm, finishes at 8:57pm.</p> <ol style="list-style-type: none"> <li>Find the angle though which the dinner party rotated.</li> <li>Find the distance the party traveled during dinner.</li> </ol> <p>Your fishing bobber oscillates in simple harmonic motion from the saves in the lake where you fish. Your bobber moves a total of 1.5 inches from its high to its low point and returns to its high point every 3 seconds. Write an equation modeling the motion of your bobber.</p>

Proficiency Scale for Trigonometry (Chapter 4)			Sample Problems/ Clarifications
	2.5	No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content.	<p><i>Minor error:</i> adding wrong. <i>Major error:</i> writing multiplication when you should add.</p> <p><i>Minor error:</i> miscounting a shift. <i>Major error:</i> graphing a line not a parabola.</p>
C	Score 2.0	<p><b>There are no major errors or omissions regarding the simpler details and processes, including:</b></p> <ul style="list-style-type: none"> <li>recognizing and/ or recalling specific terminology, such as... <ul style="list-style-type: none"> <li>initial side, terminal side, standard position, degree, radian, coterminal angle, reference angle</li> <li>arc length, sector, linear speed, angular speed,</li> <li>sine, cosine, tangent, cotangent, secant, cosecant</li> <li>amplitude, period, angular frequency, phase shift, arcsin, arccos</li> </ul> </li> <li>performing basic processes, such as... <ul style="list-style-type: none"> <li>Calculating arc length, area of sector, angular &amp; linear speed</li> <li>Find &amp; use coterminal and reference angles</li> <li>Using the Unit Circle to find sine &amp; cosine of special angles</li> <li>Applying trig identities to find trig values of any angle</li> <li>Verify simple trig identities</li> <li>Solve right triangles</li> <li>Graph sin, cos, sec, csc, tan, cot, arcsin, arccos</li> <li>Identify &amp; use characteristics of trig graphs (amp, period, freq...)</li> <li>Write the equation given characteristics of the trig function</li> <li>Solve trig equations, using inverse trig functions when needed</li> <li>Solve real-world problems involving right triangles, directional bearings, and harmonic motion.</li> </ul> </li> </ul> <p><b>However, there are major errors or omissions regarding the more complex ideas and processes.</b></p>	<ul style="list-style-type: none"> <li>Find the arc length on the circle and area of the sector with radius 6.5mm and central angle <math>\frac{5\pi}{6}</math></li> <li>If <math>f(x) = \frac{5}{2}\sin(3(x - \pi)) + 1</math>, identify the amplitude, frequency, period, &amp; phase shift.</li> <li>Verify <math>\frac{\cot x - \tan x}{\sin x \cos x} = \csc^2 x - \sec^2 x</math>.</li> <li>Solve for the unknown values.</li> </ul>  <ul style="list-style-type: none"> <li>Write the equation of a cosine curve with period of <math>\pi</math>, an amplitude of 3, left phase shift of <math>\frac{4\pi}{3}</math>, and a vertical translation up 2 units.</li> <li>Solve <math>\sin x = \frac{2}{7}</math>.</li> <li>Solve <math>3.2 = 5 \cos(\pi(x + 2)) - 1</math>.</li> </ul>
	1.5	Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content.	<p><i>“Major errors” include omitting steps, completing steps out of order, reversing definitions, not doing what the problem asks you to do, etc...</i></p>
D	Score 1.0	With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.	

