

Trigonometry 2011-2012 Benchmark Blueprint

Green Dot Public Schools

Assessments

Trigonometry		1	2
1.0	Students understand the notion of angle and how to measure it, both in degrees and radians. They can convert between degrees and radians.	3	
2.0	Students know the definition of sine and cosine as y- and x-coordinates of points on the unit circle and are familiar with the graphs of the sine and cosine functions.	3	
3.1	Students prove that this identity is equivalent to the Pythagorean theorem (i.e., students can prove this identity by using the Pythagorean theorem and, conversely, they can prove the Pythagorean theorem as a consequence of this identity).	3	
3.2	Students prove other trigonometric identities and simplify others by using the identity $\cos^2(x) + \sin^2(x) = 1$. For example, students use this identity to prove that $\sec^2(x) = \tan^2(x) + 1$.		3
4.0	Students graph functions of the form $f(t) = A \sin(Bt + C)$ or $f(t) = A \cos(Bt + C)$ and interpret A, B, and C in terms of amplitude, frequency, period, and phase shift.		3
7.0	Students know that the tangent of the angle that a line makes with the x-axis is equal to the slope of the line.	3	
9.0	Students compute, by hand, the values of the trigonometric functions and the inverse trigonometric functions at various standard points.	3	3
10.0	Students demonstrate an understanding of the addition formulas for sines and cosines and their proofs and use those formulas to prove and/or simplify other trigonometric identities.		3
12.0	Students use trigonometry to determine unknown sides or angles in right triangles.	3	3
13.0	Students know the law of sines and the law of cosines and apply those laws to problems.		3
14.0	Students determine the area of a triangle, given one angle and the two adjacent sides.		3
19.0	Students are adept at using trigonometry in a variety of applications and word problems.	3	3
Total Number of Items		21	24