**Trigonometry: Functions & Graphs**

**Unit Test**

**Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is a reference angle of ?

A. B. C. D. Undefined

1. If cos x = , determine the smallest positive angle x, in radians.

A. 0.64 B. 0.85 C. 46.01 D. 0.72

1. The point (5, -6) is on the terminal arm of standard position angle . Determine the smallest positive measure of in radians.

A. 0.69 B. 0.88 C. 5.41 D. 5.59

1. Given sin A = and sec A < 0, find the ratio for cot A.

A. = - B. = - C. = D. =

1. Evaluate: sec (- )

A. - B. C. - D.

1. What is the period of the function y = 5tan x?

A. 5 B. C. D. 2

1. Give the range of the function y = 2sin 3x + 5.

A. -7 y -3 B. -2 y 2

C. 0 y 4 D. 3 y 7

1. A circle has a radius of 18 cm. If the length of arc AB is 21 cm, as shown in the diagram, determine the measure of the central angle in degrees.

1. Determine a, b, c, d for the following graph:

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y = a cos b(x – c) + d

1. Accurately sketch at least one period of y = 3sin 2x – 1. (Plot all important points on both axes.)
2. At a seaport, the water has a maximum depth of 16 m at midnight. After this maximum depth, the first minimum depth of 4 m occurs 5.8 h later. Assume that the relation between the depth in metres and the time in hours is a sinusoidal function. What depth (to the nearest meter) will the water reach 3.5 hours after midnight?