Quiz 8 (20 pts.) Name: _____

Short Answer

1.) (5 pts) Find the exact solution(s) to the following for all x.

(a) $2\sin\theta + \sqrt{3} = 0$

(b) $\cos^2 x - 5\cos x = 6$

2.) (4 pts.) Find the exact value of $\tan\left(\sec^{-1}\left(\frac{5}{3}\right) + \tan^{-1}\left(\frac{1}{3}\right)\right)$

3.) (4 pts.) Let a triangle be given with $a = 26$ ft, $b = 62$ ft, and $\alpha = 23°$. Answer the following. (*Note: round your answer to parts (a) and (b) the nearest integer*)

(a) Find β.

(b) Give the angle measurements for each possible triangle based on your choice(s) of β above.

4.) (4 pts.) Find the length of c in the triangle given $b = 11$ m, $\alpha = 56°$, and $\beta = 112°$.

Multiple Choice (1 pt. each)

5.) Which of the following triangles can be solved using the Law of Sines?

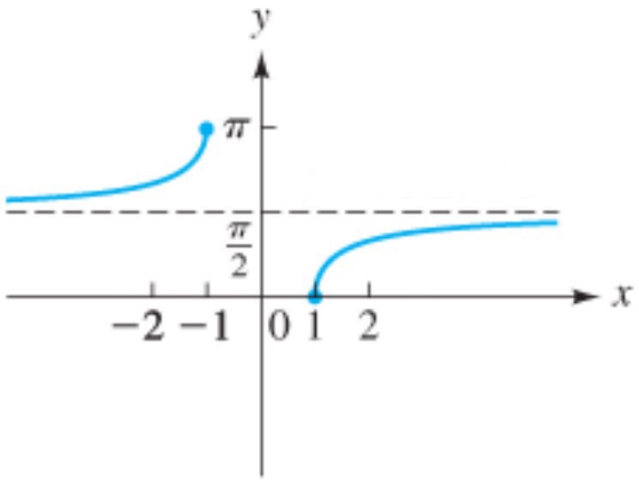
(a) $\alpha = 39°$, $\beta = 63°$, $\gamma = 78°$

(b) $b = 139$ yd, $a = 17$ yd, $\gamma = 42°$

(c) $\alpha = 105°$, $\gamma = 72°$, $c = 15$ mm

(d) $b = 7$ in, $a = 5$ in, $\alpha = 31°$

6.) Which of the following equations represents the following graph?



(a) $y = \sin^{-1} x$

(b) $y = \cos^{-1} x$

(c) $y = \tan^{-1} x$

(d) $y = \csc^{-1} x$

(e) $y = \sec^{-1} x$

(f) $y = \cot^{-1} x$

7.) Evaluate $\theta = \csc^{-1}(2)$.

(a) $\theta = 0°$

(b) $\theta = 30°$

(c) $\theta = 45°$

(d) $\theta = 60°$

(e) $\theta = 90°$