

Name \_\_\_\_\_ Score \_\_\_\_\_/10

**Please Print Clearly**

1. Suppose  $f$  and  $g$  are two functions which are inverses of each other.

$$\text{Evaluate } f \circ g(5 - \sqrt{7}) = 5 - \sqrt{7} =$$

2. Find all exact solutions for  $2\cos(x) + 1 = 0$  in the interval  $1 \leq x \leq 2\pi$ .

Solution:

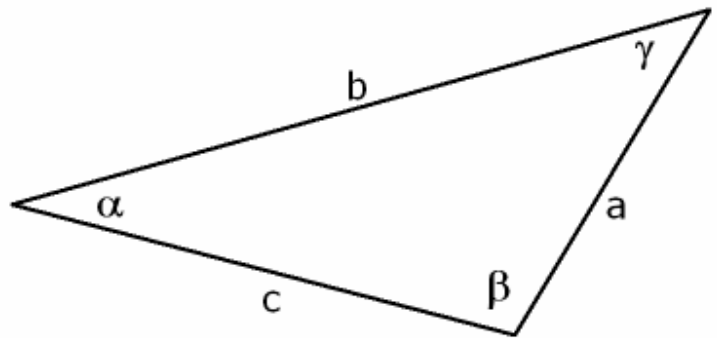
$$2\cos(x) + 1 = 0$$

$$2\cos(x) = -1$$

$$\cos(x) = -\frac{1}{2}$$

3. State the Law of Sines with reference to the triangle at the right.

$$\frac{\sin(\alpha)}{a} = \frac{\sin(\beta)}{b} = \frac{\sin(\gamma)}{c}$$



4. State the Law of Cosines with reference to the triangle at the right.

$$a^2 = b^2 + c^2 - 2bc \cos(\alpha)$$

$$b^2 = a^2 + c^2 - 2ac \cos(\beta)$$

$$c^2 = a^2 + b^2 - 2ab \cos(\gamma)$$

5. What is the amplitude of the function  $f(x) = 3\cos(2x + 5\pi)$ ?

**The amplitude is 3.**