

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

**Please Print Clearly**

**Show your work neatly and well organized.**

1. (2 points) Fill in the blanks

**Definition:** A \_\_\_\_\_ consists of three things

- A set called the \_\_\_\_\_
- A set called the \_\_\_\_\_
- A \_\_\_\_\_ which associates \_\_\_\_\_ element of the domain with a \_\_\_\_\_ element of the range.

2. The graph of the function whose rule is  $f(x) = 3x - 8$  is a \_\_\_\_\_

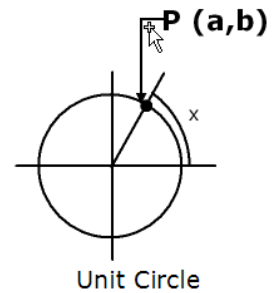
3. If  $f$  is a function and  $f(3) = 2$ , then the point  $(3,2)$  is on the graph of  $f$ .

4. Consider the function whose rule is  $f(x) = x^2 + x + 2$ . What is the second coordinate of the point which is on the graph of  $f$  and whose first coordinate is 3? \_\_\_\_\_

5. A linear function is a function whose rule may be written in the form \_\_\_\_\_ where  $m$  and  $b$  are real numbers.

6. The graph of a polynomial function is a \_\_\_\_\_, \_\_\_\_\_ curve with no \_\_\_\_\_.

7. Refer to the diagram at the right. Express each of the following in terms of  $a$  and  $b$ .  $\sin(x) =$  \_\_\_\_\_  $\cos(x) =$  \_\_\_\_\_



8. Refer to Figure 1. What is the relation between  $\sin(\alpha)$  and  $\cos(\beta)$

9. What are the  $x$ -intercepts of the polynomial function whose rule is  $f(x) = (x-3)(x+1)(x-5)$  ?

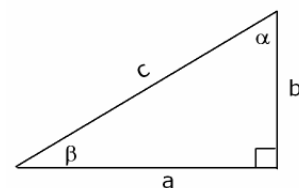


Figure 1