Meramec Math 160 C Quiz 14 Fall 2013

NAME: _____Score_____/10

1. The equation of a circle with center at the origin and radius r is $\mathbf{x^2 + y^2 = r^2}$.

2. The equation of a circle with center at the point (h, k) and radius r is $\mathbf{(x - h)^2 + (h - k)^2 = r^2}$.

3. Complex zeros of polynomial functions occur in **conjugate pairs**.

4. Consider the polynomial function whose rule is $f(x) = (x - 4)^5(x + 1)^3$, then 4 is a real zero of f with multiplicity **5**.

Suppose the leading term of a polynomial is $-7x^{53}$ then

5. As $x \to +\infty, f(x) \to -\infty$

6. As $x \to -\infty, f(x) \to +\infty$

If f is a polynomial function whose rule is given by $f(x) = a_nx^n + a_{n-1}x^{n-1} + \ldots + a_1x + a_0$, then the following statements are equivalent.

7. k is a **real zero** of the function f.

8. k is a **solution** of the polynomial equation $a_nx^n + a_{n-1}x^{n-1} + \ldots + a_1x + a_0 = 0$.

9. **(x – k)** is a factor of the polynomial $a_nx^n + a_{n-1}x^{n-1} + \ldots + a_1x + a_0$.

10. (k, 0) is an **x-intercept** of the graph of the function f.