EE 380 Fall 2009 Quiz #1

Name: Key

1. Is sin(2x) even or odd?   odd   ;

2. Is sin(x^2) even or odd?   even

3. Rewrite Asin(ωt)+Acos(ωt) as a single sine: $2^{\frac{1}{2}}$Asin(ωt+π/4)

4. $e^{\ln(1)} =$ 1   ; $e^{j\pi/2} + (e^{j\pi/2})^{*} =$ 0   ;

5. The roots of x^2-2x+10=0 are: 1+j3, 1 – j3   ;

6. Let z = e^{-2i}, |z| = 1   , $\angle$z =   -2 rad ;

7. L{δ(t)} =   1   ; L{u(t)} =   1/s   ;

8. L^{-1}{1/(s-a)} = e^{at} ;

9. If $\dfrac{s+1}{s(s-2)(s+3)} = \dfrac{A}{s} + \dfrac{B}{s-2} + \dfrac{C}{s+3}$, then A =   -1/6   ;

10. The Euler identity says e^{jx} =   cosx + jsinx   .