Pre-Calculus

Unit 1 Quiz - Practice Test

1. What does the "3" graphically represent in the following equation?
$y = 3(x-5)^2 + 7$

a) vertical stretch
b) vertical shift
c) horizontal shift
d) horizontal reflection

2. What does the "4" graphically represent in the following equation?
$y = 2\sqrt{x+4} - 6$

a) vertical stretch
b) vertical shift
c) horizontal shift
d) horizontal reflection

3. What does the "9" graphically represent in the following equation?
$y = -|x-6| + 9$

a) vertical stretch
b) vertical shift
c) horizontal shift
d) horizontal reflection

4. Rewrite the following quadratic function into vertex form.
$f(x) = x^2 + 6x + 31$

a) $f(x) = (x+6)^2 + 67$
b) $f(x) = (x+6)^2 - 5$
c) $f(x) = (x+3)^2 + 22$
d) $f(x) = (x+3)^2 + 40$

5. Rewrite the following quadratic function into vertex form.
$f(x) = 2x^2 + 4x - 17$

a) $f(x) = 2(x+1)^2 - 15$
b) $f(x) = 2(x+1)^2 - 19$
c) $f(x) = 2(x+2)^2 - 21$
d) $f(x) = 2(x+2)^2 - 25$

6. Describe the end-behaviors of the following polynomial:
$f(x) = -x^6 + 5x^3 - 9x$

a) Left–>$+\infty$; Right–>$-\infty$
b) Left–>$+\infty$; Right–>$+\infty$
c) Left–>$-\infty$; Right–>$+\infty$
d) Left–>$-\infty$; Right–>$-\infty$

7. Describe the end-behaviors of the following polynomial:
$f(x) = -x^3 + 6x^2 - 5x + 19$

a) Left–>$+\infty$; Right–>$-\infty$
b) Left–>$+\infty$; Right–>$+\infty$
c) Left–>$-\infty$; Right–>$+\infty$
d) Left–>$-\infty$; Right–>$-\infty$

8. Determine the roots of the following polynomial function:
$f(x) = 5x^2 - 45$

a) $x = 0, 5$
b) $x = \pm 3$
c) $x = \pm 5$
d) $x = 0, \pm 3$

9. Determine the roots of the following polynomial function:
$f(x) = 3x^2 + 9x - 30$

a) $x = -5, 2, 3$
b) $x = -2, 3, 5$
c) $x = -2, 5$
d) $x = -5, 2$

10. Determine the roots of the following polynomial function:
$f(x) = x^3 + 12x^2 + 32x$

a) $x = -8, -4, 0$
b) $x = -8, -4$
c) $x = 4, 8$
d) $x = 0, 4, 8$