

Module 3 Test Part 2

Must show work on all problems. Without work to justify your final answer, no credit will be given.

Convert each of the following to standard form:

1) $f(x) = 3(1-x)(x-5)$

2) $f(x) = -2(x-3)^2 + 4$

3. Which of the following quadratic equations has no real solutions, if any? (This is multiple choice)

a) $f(x) = -x^2 + 2x + 4$

b) $f(x) = -3(x-2)(x+5)$

c) $f(x) = -2(x-3)^2 - 4$

Solve the following:

4) $-x^2 + 2x + 4 = 6x - 1$

5) $-3(x-2)^2 = 27$

6) $6x^2 = 4x$

7) $x^2 - 6x + 2 = 0$

Find the vertex for each:

8) $f(x) = x^2 + 3x - 2$

9) $f(x) = -3(x-1)(x+4)$

Graph the following

10) $f(x) = -x^2 + 4x - 2$

11) $f(x) = 2(x-1)(x+2)$

12. Karen shot a basketball toward the hoop. The function that models the height, h in feet, of the ball after t seconds is $h(t) = -16t^2 + 64t + 8$.

a. At what time was the ball at its maximum height?

b. What was the ball's maximum height?