

Final Project 2 Study Guide

Name:

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Period:

CL9-146.

Consider the quadratic function $f(x) = (x - 2)^2 + 9$.

a. Identify the vertex and state if it is the maximum or minimum point of the function.

b. Why does $(x - 2)^2 + 9$ have no real solutions?

c. What are the roots of the polynomial function $f(x) = (x - 2)^2 + 9$?

Steps of finding the vertex of a Quadratic Function

1. Vertex is (h, k) .
2. The value of h is the average of the x -intercepts.
3. After we find out the value of h , then plug h into the original function either in the factored form or standard form to find k .

CL 9-147. Given the function $f(x)=2x^2$, write an equation for each transformation and describe how the transformed graph would be different from the original graph.

a. $g(x)=f(x)+2$	b. $h(x)=2 \cdot f(x)$
c. $j(x)=f(x+2)$	d. $k(x)=f(2x)$

CL 9-148. For each quadratic function below, complete the square to write it in graphing form. State the vertex and intercepts of each parabola.

<p>a. $y = x^2 - 10x + 22$</p> <p>Graph form:</p> <p>Vertex:</p> <p>x-intercepts:</p> <p>y- intercepts:</p>
<p>b. $y = x^2 + 11x + 73$</p> <p>Graph form:</p> <p>Vertex:</p> <p>x-intercepts:</p> <p>y- intercepts:</p>

