

Agenda/Objectives/Notes PAPPC Chapter 1 Test/Section 2.1

Today's Agenda

1. Test review (15 min)
2. Chapter 1 Test (40 min)
3. Today's Objectives
4. Today's assignment: 134/1-8, 10, 12, 20, 32, 40, 42, 44, 47, 51, 55, 56, 78, 79

Today's Objectives: You will be able to

1. Analyze graphs of quadratic functions.
2. Write quadratic functions in quadratic form then graph them.
3. Use quadratic functions to model real-life problems.

Notes

Know what a polynomial function is.

Standard Form of a Quadratic Function (may also be called vertex form)

The quadratic function given by $f(x) = (x - h)^2 + k$, $a \neq 0$ is in **standard form**.

Relationships present when the quadratic function is written in this form are

1. **Axis of Symmetry** the vertical line $x = h$
2. **Vertex** the point (h, k)
3. **Opening** up if $a > 0$, down if $a < 0$

Alternate Form of a Quadratic Function

The quadratic function given by $f(x) = ax^2 + bx + c$ has the following relationships

1. **Axis of Symmetry** the vertical line $x = -\frac{b}{2a}$
2. **Vertex** the point $\left(-\frac{b}{2a}, f\left(-\frac{b}{2a}\right)\right)$
3. **Opening** up if $a > 0$ and the vertex is a minimum,
down if $a < 0$ and the vertex is a maximum