Precalculus Journal A.REI.D.11: Quadratic Inequalities

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1. Explain how to determine whether to use a dashed or solid curve when graphing a quadratic inequality. Include examples.

2. Explain how to determine whether to shade above or below the curve when graphing a quadratic inequality. Include examples.

The curve is dashed if the inequality involves < or >. The curve is solid if the inequality involves $\leq$ or $\geq$. For example, the quadratic inequality $y < x^2 + 2$ requires a dashed curve and the quadratic inequality

[1] $y \geq x^2 - 2$ requires a solid curve.

Test a point not on the curve. If it makes the inequality true, shade that part of the plane. For example,

[2] with the quadratic inequality $y < x^2 + 2$ test the point (0, 0). Since $0 < 2$, shade below the curve.