

Parabolas

Thursday, January 19, 2012
5:43 PM

Slides

The chalkboard interface features several navigation buttons: 'info lesson Lecture', 'helps lesson Note-Taking', 'Try It lesson Interactives and Labs', and 'help lesson Contact Me'. A callout bubble indicates 'Lecture mode autostarts in ... 5'. Another callout bubble states 'Table of Contents (TOC) is available'. A third callout bubble, containing a Creative Commons (CC) logo, says 'closed captioning is available'.

Notes

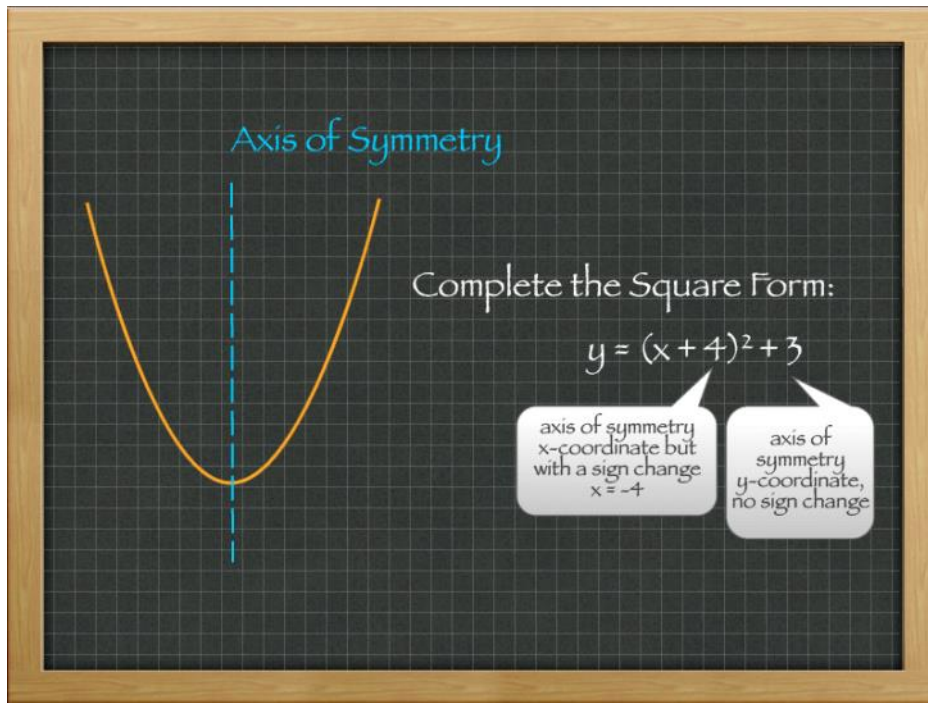
The chalkboard diagram is titled 'Parabolas' and shows the standard form equation $y = x^2 - 8x - 13$. A vertical dashed blue line is labeled 'Axis of Symmetry'. Two orange parabolas are drawn: one opening upwards, labeled 'upward 'smile'', and one opening downwards, labeled 'downward 'frown''. A legend indicates '+ = upward' and '- = downward'. A callout bubble points to the constant term in the equation, labeled 'y-intercept'.

In this lesson, you will learn more about some interesting connections between the graphed form of a parabola and the quadratic equations that make them.

Some information can be found from the standard form of a quadratic equation. The x-squared sign tells you if the parabola is upward, or smiling, or if the sign is negative that it points downward, or is frowning.

The constant, just as you have in a linear equation, tells you where the y-axis will be crossed. That doesn't always have to be the highest or lowest point of the parabola, by the way.

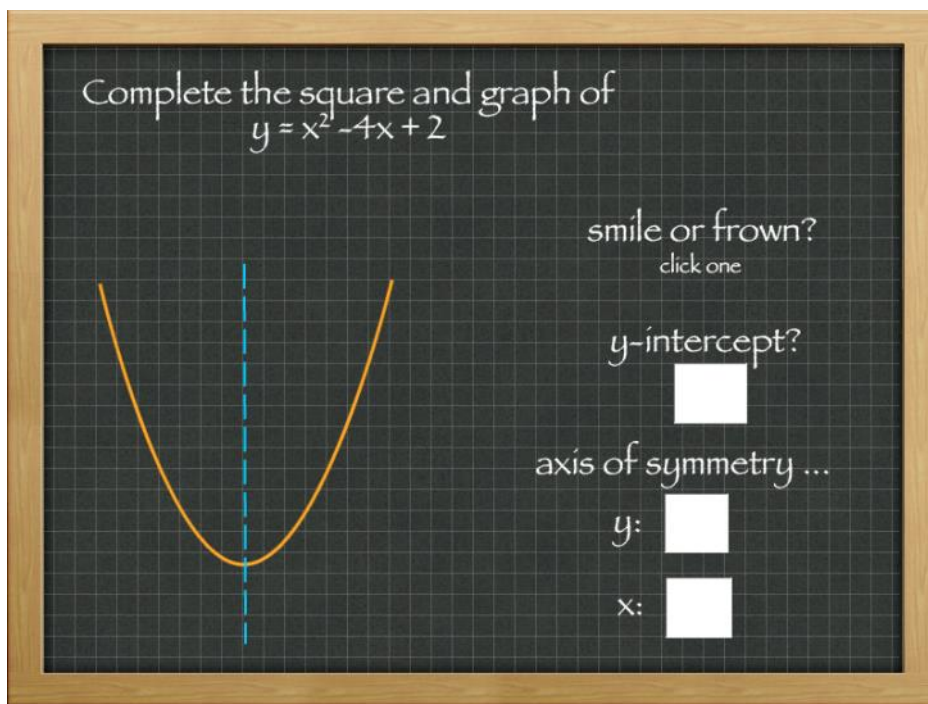
The line going down the exact middle is called the axis of symmetry.



The axis of symmetry can be determined, which will also give you the highest or lowest point of the parabola, by examining the equation in its completed square form.

The y-coordinate is there at the end.

The x-coordinate is the numerical portion of the square.



Try It

Congratulations!
You have completed
this topic

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this lesson if you wish...

