

Algebra I Graphing Quadratic Function Chapter 8

Lesson 008 | Algebra I | Quadratic equations and graphs

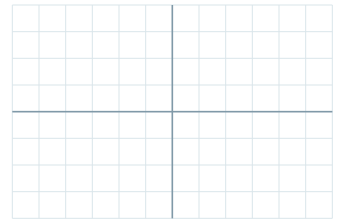
<https://www.youtube.com/watch?v=TzmC-shELEE>

Original practice aligned to the saved video title.

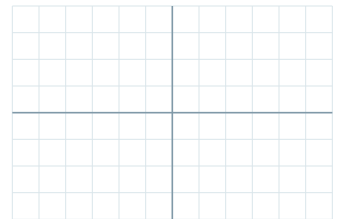
Name: _____ Date: _____ Show your reasoning.

01

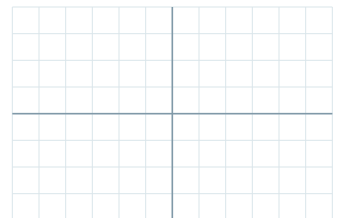
For $y = 7x^2 + 42x + 53$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

**02**

For $y = 12x^2 - 192x + 757$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

**03**

For $y = 11x^2 - 132x + 388$, find the vertex, axis, range, and both x-intercepts; sketch the graph.



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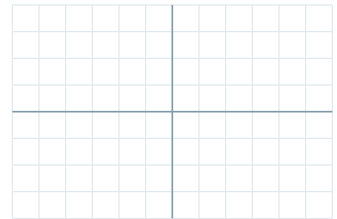
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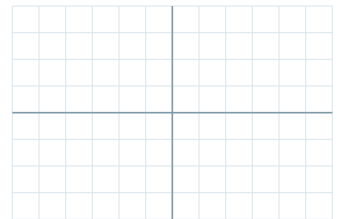
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04

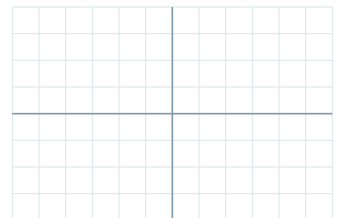
For $y = 8 \cdot x^2 - 128 \cdot x + 499$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

**05**

For $y = 12 \cdot x^2 - 24 \cdot x + 1$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

**06**

For $y = 9 \cdot x^2 + 126 \cdot x + 431$, find the vertex, axis, range, and both x-intercepts; sketch the graph.



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01

For $y = 7x^2 + 42x + 53$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 7(x - (-3))^2 - 10$. Vertex $(-3, -10)$; axis $x = -3$; range $y \geq -10$. Solve $(x - (-3))^2 = 10/7$: $x = -3 \pm \sqrt{(10/7)}$.

02

For $y = 12x^2 - 192x + 757$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 12(x - (8))^2 - 11$. Vertex $(8, -11)$; axis $x = 8$; range $y \geq -11$. Solve $(x - (8))^2 = 11/12$: $x = 8 \pm \sqrt{(11/12)}$.

03

For $y = 11x^2 - 132x + 388$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 11(x - (6))^2 - 8$. Vertex $(6, -8)$; axis $x = 6$; range $y \geq -8$. Solve $(x - (6))^2 = 8/11$: $x = 6 \pm \sqrt{(8/11)}$.

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04

For $y = 8x^2 - 128x + 499$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 8(x - 8)^2 - 13$. Vertex (8, -13); axis $x = 8$; range $y \geq -13$. Solve $(x-8)^2 = 13/8$: $x = 8 \pm \sqrt{13/8}$.

05

For $y = 12x^2 - 24x + 1$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 12(x - 1)^2 - 11$. Vertex (1, -11); axis $x = 1$; range $y \geq -11$. Solve $(x-1)^2 = 11/12$: $x = 1 \pm \sqrt{11/12}$.

06

For $y = 9x^2 + 126x + 431$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 9(x - (-7))^2 - 10$. Vertex (-7, -10); axis $x = -7$; range $y \geq -10$. Solve $(x-(-7))^2 = 10/9$: $x = -7 \pm \sqrt{10/9}$.