

Algebra 1 Midterm Review, Key Step for Tackling any Math Problems

Lesson 013 | Algebra I | Linear equations • Systems of equations and inequalities • Quadratic equations and graphs

<https://www.youtube.com/watch?v=iG3z377yPbM>

Related review: exact coverage needs teacher confirmation.

Name: _____ Date: _____ Show your reasoning.

01

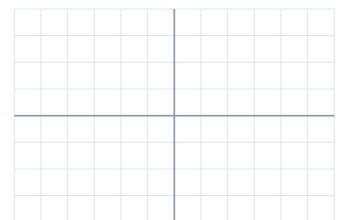
Solve $5x + 6 = 41$.

02

Solve the system $x + y = 14$, $6x - y = 0$.

03

For $y = 8x^2 - 32x + 26$, find the vertex, axis, range, and both x-intercepts; sketch the graph.



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04

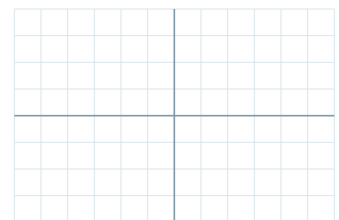
Solve $6x + 8 = 92$.

05

Solve the system $x + y = 17$, $5x - y = 7$.

06

For $y = 5 \cdot x^2 - 10 \cdot x - 2$, find the vertex, axis, range, and both x-intercepts; sketch the graph.



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01 Solve $5x + 6 = 41$.

Subtract 6: $5x = 35$. Divide by 5: $x = 7$.

02 Solve the system $x + y = 14$, $6x - y = 0$.

Add the equations: $7x = 14$, so $x = 2$. Substitute into $x + y = 14$: $y = 12$.

03 For $y = 8x^2 - 32x + 26$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

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

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04

Solve $6x + 8 = 92$.

Subtract 8: $6x = 84$. Divide by 6: $x = 14$.

05

Solve the system $x + y = 17$, $5x - y = 7$.

Add the equations: $6x = 24$, so $x = 4$. Substitute into $x + y = 17$: $y = 13$.

06

For $y = 5x^2 - 10x - 2$, find the vertex, axis, range, and both x-intercepts; sketch the graph.

Complete the square: $y = 5(x - 1)^2 - 7$. Vertex $(1, -7)$; axis $x = 1$; range $y \geq -7$. Solve $(x - 1)^2 = 7/5$: $x = 1 \pm \sqrt{7/5}$.