

Name: _____ Date: _____ Score: ____ / 10

INSTRUCTIONS

For multiple-choice questions, circle the letter of the correct answer. For short-answer and problem-solving questions, show your complete work in the space provided. No calculator unless your teacher says otherwise.

1 Solve by factoring: $x^2 - 5x + 6 = 0$

Multiple Choice

A $x = 2$ or $x = 3$ **B** $x = -2$ or $x = -3$ **C** $x = 1$ or $x = 6$ **D** $x = -1$ or $x = -6$ **2 Solve by factoring: $x^2 - 3x - 10 = 0$**

Multiple Choice

A $x = -2$ or $x = 5$ **B** $x = 2$ or $x = -5$ **C** $x = -2$ or $x = -5$ **D** $x = 2$ or $x = 5$ **3 Short Answer — Solve using the quadratic formula: $2x^2 + 3x - 2 = 0$**

Short Answer

4 What is the vertex of $y = (x - 3)^2 + 4$?

Multiple Choice

A (3, 4)**B** (-3, 4)**C** (3, -4)**D** (4, 3)**5 Write $y = x^2 - 6x + 5$ in vertex form by completing the square.**

Multiple Choice

A $y = (x - 3)^2 - 4$ **B** $y = (x - 3)^2 + 4$ **C** $y = (x - 6)^2 - 4$ **D** $y = (x + 3)^2 - 4$ **6 Short Answer — Solve by completing the square: $x^2 + 4x - 5 = 0$**

Short Answer

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If a quadratic equation's discriminant is negative, the equation has:

Multiple Choice

A

Two real solutions

B

One real (repeated) solution

C

Two complex (non-real) solutions

D

No solutions at all

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Find the axis of symmetry of $y = 2x^2 - 8x + 3$.

Multiple Choice

A

 $x = 2$

B

 $x = -2$

C

 $x = 4$

D

 $x = -4$

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Problem Solving — A ball is thrown into the air with height $h(t) = -16t^2 + 32t + 5$ (feet, t in seconds). Find the maximum height and the time at which it occurs.

Problem Solving

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Problem Solving — The length of a rectangular garden is 4 feet more than its width, and its area is 96 square feet. Write and solve a quadratic equation to find the garden's dimensions.

Problem Solving