

Grade 10 Quadratics Unit Test

Name _____ Date _____ Score _____ / 16

Part A · Polynomial Operations

01 $(7x - 3) - (6x - 3) =$ _____

02 $(2x - 2)(-9x - 9) =$ _____

03 $(-9x + 5) - (x + 5) =$ _____

04 $(7x + 1)(8x - 7) =$ _____

Part B · Factoring Quadratics

05 Factor $x^2 - 8x + 12 =$ _____

06 Factor $x^2 + 7x + 12 =$ _____

07 Factor $x^2 - 8x + 7 =$ _____

08 Factor $x^2 + 6x - 16 =$ _____

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Part C · Solving Quadratics

09 Solve $x^2 + x - 6 = 0$ _____

10 Solve $x^2 + 6x + 8 = 0$ _____

11 Solve $x^2 - 1 = 0$ _____

12 Solve $x^2 + 12x + 35 = 0$ _____

Part D · Graphing Parabolas

Use the graph or the equation to answer each question.

13

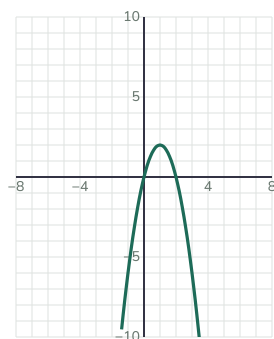
$y = -(x + 2)(x - 2)$. Axis of symmetry: x = _____

14

$y = 3(x + 2)^2 + 4$. Axis of symmetry: x = _____

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Part D · Graphing Parabolas (continued)



15 Vertex = _____

16

Write $y = x^2 - 8x + 6$ in vertex form.

Grade 10 Quadratics Unit Test (Answer Key)**Part A · Polynomial Operations**

01 $(7x - 3) - (6x - 3) = x$

02 $(2x - 2)(-9x - 9) = -18x^2 + 18$

03 $(-9x + 5) - (x + 5) = -10x$

04 $(7x + 1)(8x - 7) = 56x^2 - 41x - 7$

Part B · Factoring Quadratics

05 Factor $x^2 - 8x + 12 =$
 $(x - 2)(x - 6)$

06 Factor $x^2 + 7x + 12 =$
 $(x + 4)(x + 3)$

07 Factor $x^2 - 8x + 7 = (x - 7)(x - 1)$

08 Factor $x^2 + 6x - 16 =$
 $(x + 8)(x - 2)$

Part C · Solving Quadratics

09 Solve $x^2 + x - 6 = 0$
 $x = -3$ or $x = 2$

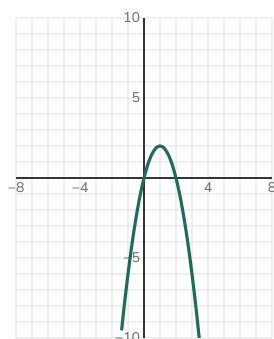
10 Solve $x^2 + 6x + 8 = 0$
 $x = -4$ or $x = -2$

11 Solve $x^2 - 1 = 0$ $x = -1$ or $x = 1$

12 Solve $x^2 + 12x + 35 = 0$
 $x = -5$ or $x = -7$

Grade 10 Quadratics Unit Test (Answer Key)**Part D · Graphing Parabolas**

Use the graph or the equation to answer each question.

13 $y = -(x + 2)(x - 2)$. Axis of symmetry: $x =$ **$x = 0$** **14** $y = 3(x + 2)^2 + 4$. Axis of symmetry: $x =$
 $x = -2$ **15** Vertex =**(1, 2)****16**Write $y = x^2 - 8x + 6$ in vertex form. **$y = (x - 4)^2 - 10$**