

Review for ch.9 Test

Review Quiz.

1. $y = -2x^2 + 8$
 opens up/down: down
 vertex: (0, 8)
 Axis of Symmetry: $x = 0$
 x intercepts: (-2, 0) or (2, 0)

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2. $y = x^2 + 6x + 5$
 opens up/down: up
 vertex: (-3, -4)
 Axis of Symmetry: $x = -3$
 x intercepts: (-1, 0) (-5, 0)

$$x = \frac{-b}{2a} = \frac{-6}{2(1)} = -3$$

$$y = (-3)^2 + 6(-3) + 5 = -4$$

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Without graphing, find the vertex and axis of symmetry.

3. $y = 5x^2 + 5$
(0, 5)
 $x = 0$

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Without graphing, find the vertex and axis of symmetry.

5. $y = 2x^2 - 12x + 5$ v: (3, -13)
axis: $x = 3$

$$x = \frac{-(-12)}{2(2)} = \frac{12}{4} = 3$$

$$y = 2(3)^2 - 12(3) + 5 = -13$$

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Solve each equation or write no solution. You must show all work!

7. $x^2 + 1 = -80$
 ~~x^2~~ ~~$+1$~~ ~~$=$~~ ~~-80~~
 $\sqrt{x^2} = \sqrt{-81}$
 no solution

8. $\frac{1}{2}x^2 - 7 = 65$
 ~~$\frac{1}{2}x^2$~~ ~~-7~~ ~~$=$~~ ~~65~~
 $\frac{2}{1} \cdot \frac{1}{2}x^2 = 72 \cdot \frac{2}{1}$
 $\sqrt{x^2} = \sqrt{144}$
 $x = \pm 12$

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9. $(2x - 5)(x + 3) = 0$

$$\frac{2x-5}{1 \cdot 5} = 0 \quad \text{or} \quad \frac{x+3}{-3 \cdot 3} = 0$$

$$\frac{2x}{2} = \frac{5}{2} \quad x = -3$$

$$x = \frac{5}{2} \quad \text{or} \quad -3$$

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10. $4x^2 - 9x + 5 = 0$

$(x - \frac{4}{4})(x - \frac{5}{4}) = 0$

$(x - 1)(4x - 5) = 0$

$x - 1 = 0$ or $4x - 5 = 0$

$x = 1$ or $\frac{5}{4}$

~~20
 $4x - 5$
 $+ -$
 -9~~

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More Review of Ch.9.

1. $y = -2x^2 + 4x + 4$ $-2(1^2) + 4(1) + 4 = 6$

y - intercept: $-2(0^2) + 4(0) + 4 = 4$ $(0, 4)$

x - intercepts: $(-73, 0)$ $(273, 0)$

vertex: $(1, 6)$ $x = \frac{-b}{2a} = \frac{-4}{2(-2)} = \frac{-4}{-4} = 1$

Is it a maximum or minimum? maximum

axis of symmetry: $x = 1$

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Solve for x.

2. $\frac{1}{2}x^2 + 4 = 12$

$\frac{1}{2}x^2 = 8$

$x^2 = 16$

$x = \pm 4$

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3. $(2x + 1)(x - 5) = 0$

$2x + 1 = 0$ or $x - 5 = 0$

$2x = -1$ or $x = 5$

$x = -\frac{1}{2}$ or $x = 5$

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4. $3x^2 + 5x - 2 = 0$

$(x + \frac{6}{3})(x - \frac{1}{3}) = 0$

$(x + 2)(3x - 1) = 0$

$x + 2 = 0$ or $3x - 1 = 0$

$x = -2$ or $x = \frac{1}{3}$

~~-6
 $6x - 1$
 $+ -$
 5~~

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Solve for x by completing the square.

5. $x^2 - 2x - 15 = 0$ $\left(\frac{-2}{2}\right)^2 = 1$

$x^2 - 2x + 1 = 15 + 1$

$(x - 1)^2 = 16$

$x - 1 = \pm 4$

$x = 1 + 4 = 5$ or $x = 1 - 4 = -3$

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Solve for x by completing the square.

6. $x^2 + 5x = -3$

$$x^2 + 5x + \frac{25}{4} = -3 + \frac{25}{4} \quad \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

$$\left(x + \frac{5}{2}\right)^2 = \frac{13}{4}$$

$$x + \frac{5}{2} = \pm \frac{\sqrt{13}}{2}$$

$$x = \frac{-5 \pm \sqrt{13}}{2}$$

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Classwork: p.648 - 650 #6 - 20 even

#6,8,10 - just give vertex and axis of symmetry

Homework: Study for test!

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