Perform the operation. Write the answer in standard form.

$(2 - 10i) + (15 + 16i)$

a. $6 + 17i$
c. $17 + 6i$
b. $-8 + 31i$
d. $13 + 6i$

Perform the operation. Write the answer in standard form.

$(13 + 17i) + (7 - 8i)$

a. $9 + 20i$
c. $30 - i$
b. $20 + 9i$
d. $-6 + 9i$

The height y (in feet) of a dodgeball t seconds after it is thrown can be modeled by the function $y = -16t^2 + 64t + 3$. Write the function in vertex form. Then find the maximum height of the dodgeball.

a. $y = -16(t + 67)^2 - 4$; 4 ft
c. $y = -16(t + 2)^2 + 67$; 67 ft
b. $y = -16(t - 2)^2 + 67$; 67 ft
d. $y = -16(t - 2)^2 + 67$; 2 ft

The height y (in feet) of a dodgeball t seconds after it is thrown can be modeled by the function $y = -16t^2 + 128t + 3$. Write the function in vertex form. Then find the maximum height of the dodgeball.

a. $y = -16(t + 4)^2 + 259$; 259 ft
c. $y = -16(t + 259)^2 - 8$; 8 ft
b. $y = -16(t - 4)^2 + 259$; 4 ft
d. $y = -16(t - 4)^2 + 259$; 259 ft

Find the discriminant of the quadratic equation $-x + 4 = -2x^2$ and describe the number and type of solutions of the equation.

a. 31; one real solution
b. 31; two imaginary solutions
c. −31; two imaginary solutions
d. −31; one real solution

Find the discriminant of the quadratic equation $-x^2 - 12x - 28 = 0$ and describe the number and type of solutions of the equation.

a. −32; two imaginary solutions
b. −32; two real solutions
c. 32; two imaginary solutions
d. 32; two real solutions

Solve the system.

$y = (x - 2)^2 + 3$

$y = 3$

a. $(2, -3)$
b. $(-2, 3)$
c. $(2, 3)$
d. $(-2, -3)$

Solve the system.

$y = x - 7$

$y = 0.5(x - 7)^2$

a. (7,0) and (9,2)
b. no solution
c. (9,0) and (7,2)
d. (−7,0) and (9,2)

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Solve the system.

$y = x^2 - x - 6$

$y = 2x - 2$

a. $(4,6)$ and $(1,4)$
b. no solution
c. $(-4,6)$ and $(-1,4)$
d. $(4,6)$ and $(-1,-4)$

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Solve the system.

$y = x^2 - 6x + 9$

$y = -x + 5$

a. $(-4,1)$ and $(1,-4)$
b. $(4,1)$ and $(1,4)$
c. $(-4,-1)$ and $(-1,-4)$
d. no solution

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Solve the system.

$y = 2x^2 + 3$

$y = x + 2$

a. no solution
b. $(0,5)$
c. $(4,6)$ and $(1,4)$
d. $(4,6)$ and $(-1,-4)$

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Solve the system.

$y = (x-6)^2$

$y = -x^2 + 12x - 34$

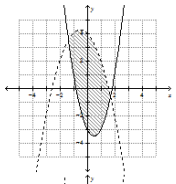
a. no solution
b. $(5,1)$
c. $(1,5)$ and $(1,7)$
d. $(5,1)$ and $(7,1)$

Graph the system of quadratic inequalities.

$y \geq 2x^2 - 2x - 3$

$y < -x^2 - x + 4$

a.



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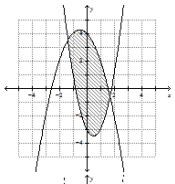

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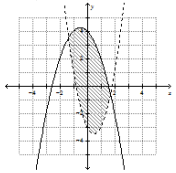

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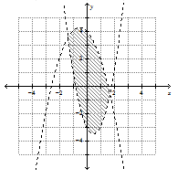
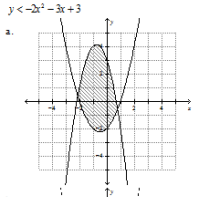


Graph the system of quadratic inequalities.

$y \geq x^2 + x - 2$

$y < -2x^2 - 3x + 3$

a.



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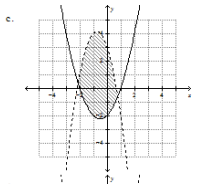

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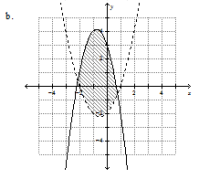

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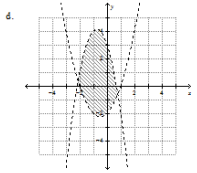

$x^2 + 10x > -21$

(target: Graph quadratic inequalities in two variables. Solve quadratic inequalities in one variable.)

a. $-7 < x < -3$

b. $x < 3$ or $x > 7$

c. $x < -7$ or $x > -3$

d. $3 < x < 7$

$x^2 + 8x > -12$

(target: Graph quadratic inequalities in two variables. Solve quadratic inequalities in one variable.)

a. $x < -6$ or $x > -2$

b. $-6 < x < -2$

c. $2 < x < 6$

d. $x < 2$ or $x > 6$

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$x^2 + 11x < -24$

(target: Graph quadratic inequalities in two variables. Solve quadratic inequalities in one variable.)

a. $x < -8$ or $x > -3$
c. $x < 3$ or $x > 8$
b. $3 < x < 8$
d. $-8 < x < -3$

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Solve the equation.

$x^2 + 12x + 36 = 81$

a. $x = -15i$ and $x = 3i$
c. $x = -15$ and $x = 3$
b. $x = 45$
d. $x = -3$ and $x = 15$

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Solve the equation.

$x^2 + 16x + 64 = 36$

a. $x = -14i$ and $x = -2i$
c. $x = -14$ and $x = -2$
b. $x = -28$
d. $x = 2$ and $x = 14$

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Solve the equation.

$25x^2 + 30x + 9 = 1$

a. $x = \frac{2}{5}$ and $x = \frac{4}{5}$
c. $x = -\frac{4}{5}$ and $x = -\frac{2}{5}$
b. $x = -\frac{4}{5}i$ and $x = -\frac{2}{5}i$
d. $x = -\frac{4}{5}$ and $x = \frac{2}{5}$

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Solve the equation.

$4x^2 + 20x + 25 = -5$

a. $x = \dfrac{-5 \pm \sqrt{5}}{2}$

b. $x = -5 \pm i\sqrt{5}$

c. $x = \dfrac{-5 \pm i\sqrt{5}}{2}$

d. $x = -5 \pm 2i\sqrt{5}$

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Solve the equation.

$x(x + 8) = -20$

a. $x = -4 \pm 2i$

b. $x = 4 \pm 16i$

c. $x = 4 \pm 2i$

d. $x = -4 \pm 16i$

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Solve the equation.

$x(x - 7) = 2$

a. $x = \dfrac{-7 \pm \sqrt{57}}{2}$

b. $x = \dfrac{-7 \pm i\sqrt{57}}{2}$

c. $x = \dfrac{7 \pm i\sqrt{57}}{2}$

d. $x = \dfrac{7 \pm \sqrt{57}}{2}$

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Solve the equation.

$x(x - 13) = 4$

a. $x = \dfrac{13 \pm i\sqrt{185}}{2}$

b. $x = \dfrac{-13 \pm i\sqrt{185}}{2}$

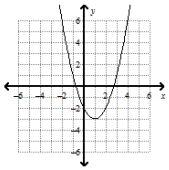
c. $x = \dfrac{-13 \pm \sqrt{185}}{2}$

d. $x = \dfrac{13 \pm \sqrt{185}}{2}$

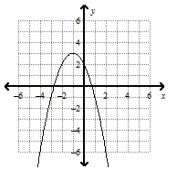
What is the graph of the equation?

$y = -x^2 - 2x + 2$

a.



c.



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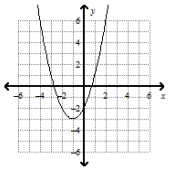

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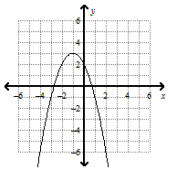
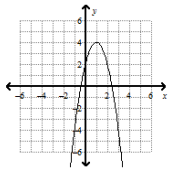


What is the graph of the equation?

$y = 2x^2 + 4x + 2$

a.



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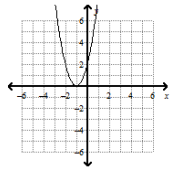

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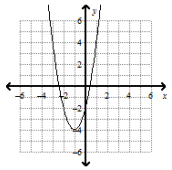

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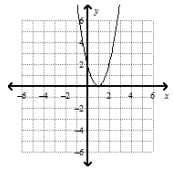
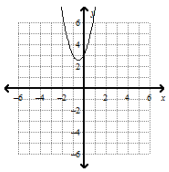


What is the graph of the equation?

$y = 2x^2 + 2x + 3$

a.



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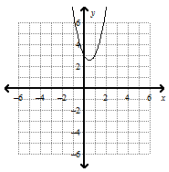

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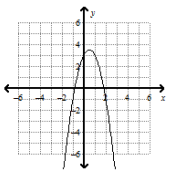

d.