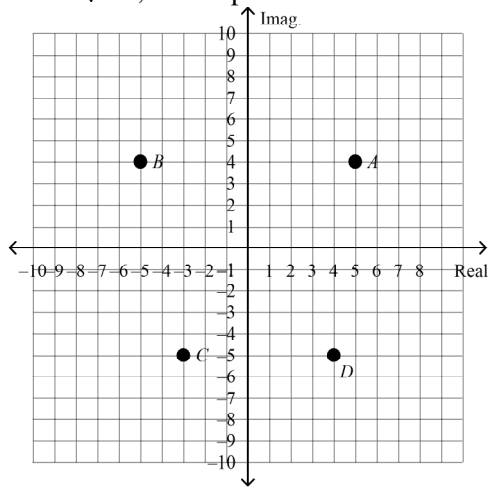


Algebra 2 - Chapter 5 Practice Test

- Solve: $49x^2 + 36 = 0$
 - $-\frac{6}{7}i, \frac{6}{7}i$
 - $-\frac{7}{6}i, \frac{7}{6}i$
 - $-\frac{6}{7}, \frac{6}{7}$
 - $-\frac{36}{49}i, \frac{36}{49}i$
- Factor: $4x^2 - 11x - 20$
 - $(x + 5)(4x - 4)$
 - $(4x - 4)(x - 5)$
 - $(4x + 5)(x - 4)$
 - $(4x + 5)(x + 4)$
- Identify the y-intercept of the graph of the function $y = -2(x - 2)^2 + 2$.
 - $(-8, 0)$
 - $(0, -6)$
 - $(-6, 0)$
 - $(0, 6)$
- Solve the quadratic equation by completing the square. $x^2 + 16x + 67 = 0$
 - $8 \pm i\sqrt{61}$
 - $-8 \pm i\sqrt{3}$
 - $256 \pm i\sqrt{3}$
 - $-16 \pm \sqrt{61}$
- If $i = \sqrt{-1}$, which point shows the location of $5 + 4i$ on the plane?



- point A
 - point C
 - point D
 - point B
- Solve: $-3x^2 - x - 4 = 0$
 - $-6 \pm \frac{i\sqrt{94}}{6}$
 - $-\frac{1}{3} \pm \frac{i\sqrt{47}}{3}$
 - $-\frac{1}{6} \pm \frac{i\sqrt{47}}{6}$
 - $-\frac{1}{6} \pm \frac{\sqrt{47}}{6}$
 - What is the minimum value of the function $y = (x - 1)^2 - 7$?
 - 1
 - 7
 - 5
 - 1

8. What is the equation of a parabola that is translated up 8 and 2 to the right from the graph of the parabola $y = (x - 3)^2 - 5$?

a. $y = (x - 5)^2 - 3$

c. $y = (x - 5)^2 + 3$

b. $y = (x - 1)^2 + 3$

d. $y = (x + 1)^2 + 3$

9. Simplify: $(-8i)(-i)$

a. $-8i$

b. $8i$

c. 8

d. -8

10. Factor: $16x^2 + 40x + 25$

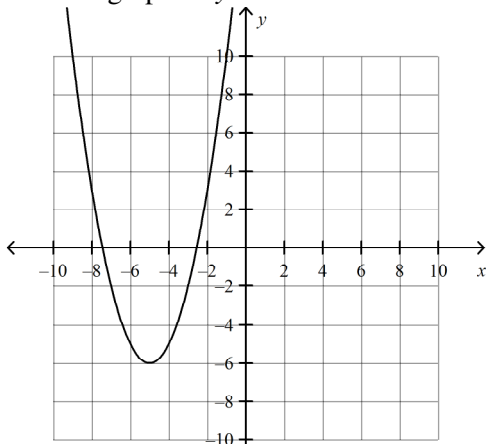
a. $(-4x + 5)^2$

c. $(4x + 5)^2$

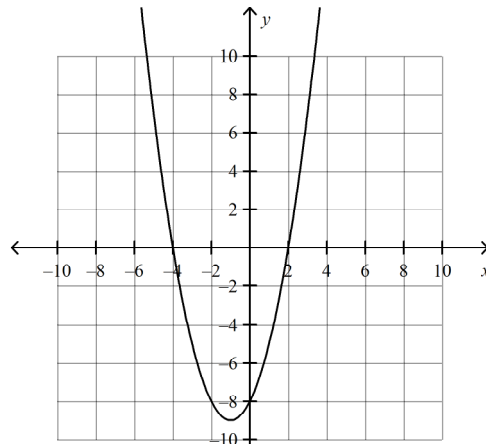
b. $(4x + 5)(-4x - 5)$

d. $(4x - 5)^2$

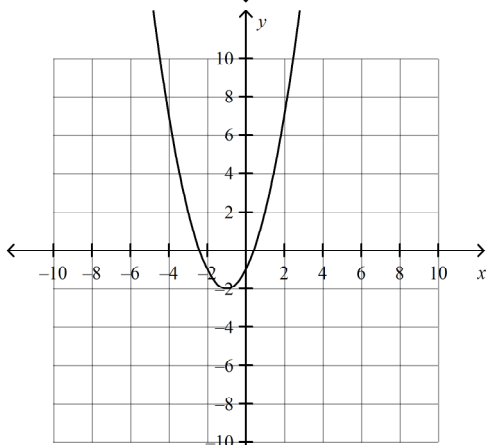
11. Which is the graph of $y = x^2 - 10x + 31$?



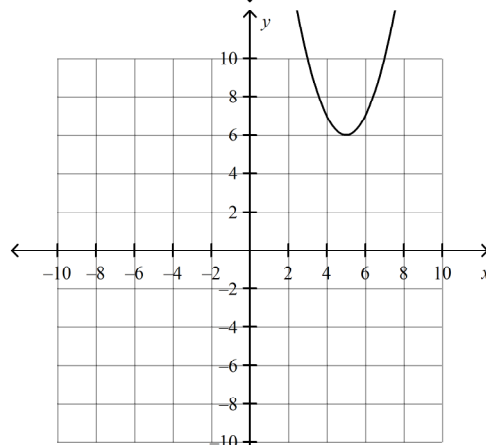
a.



c.



b.



d.

12. Simplify: $\frac{3}{1-2i}$?

a. $\frac{3-6i}{4}$

b. $\frac{3+6i}{3}$

c. $\frac{3+6i}{5}$

d. $\frac{3-6i}{5}$

13. Simplify: $\sqrt{-18}$

a. $3\sqrt{-2}$

b. $i\sqrt{18}$

c. $3i\sqrt{2}$

d. $-3\sqrt{2}$

14. Simplify: $(1-6i)(4+6i)$

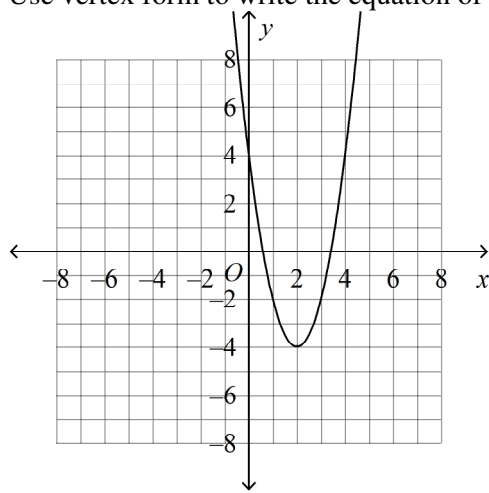
a. $4-36i$

c. $-32-18i$

b. $40-18i$

d. $4-18i$

15. Use vertex form to write the equation of the parabola.



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

c. $y = (x-2)^2 - 4$

b. $y = 2(x-2)^2 - 4$

d. $y = 2(x+2)^2 + 4$

16. Solve: $4|4-3x| - 14 = 6$

a. $x = -2$ or $x = -\frac{2}{3}$

c. $x = \frac{2}{3}$ or $x = 2$

b. $x = -3$ or $x = \frac{1}{3}$

d. $x = -\frac{1}{3}$ or $x = 3$

17. Dalco Manufacturing estimates that its weekly profit, P , in hundreds of dollars, can be approximated by the formula $P = -3x^2 + 6x + 7$, where x is the number of units produced per week, in thousands.

a. How many units should the company produce per week to earn the maximum profit?

b. Find the maximum weekly profit.

a. 1,000 units; \$1000

c. 2,000 units; \$900

b. 3,000 units; \$200

d. 1,000 units; \$400

18. Solve: $27x^2 = 192$

a. $-\frac{8}{3}, \frac{8}{3}$

b. $-\frac{9}{64}, \frac{9}{64}$

c. $-\frac{3}{8}, \frac{3}{8}$

d. $-\frac{64}{9}, \frac{64}{9}$

19. A group of 200 people attended a ball game. The kids were \$1 and the adults where \$4. If they made \$299, how many kids attended the game?

a. 33

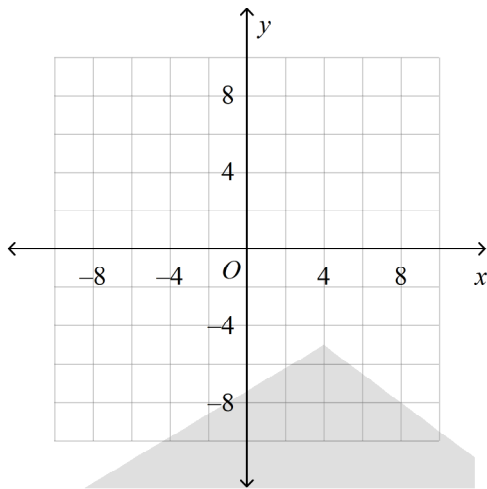
b. 25

c. 75

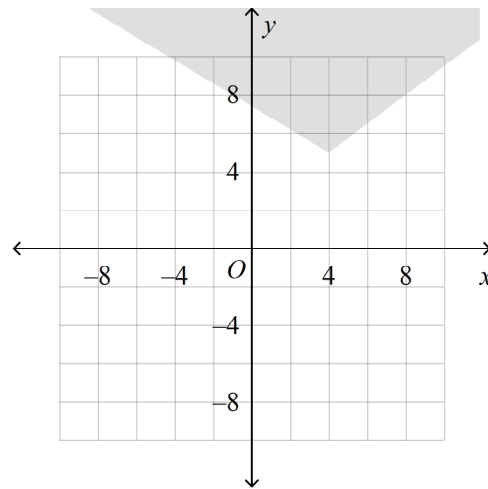
d. 67

20. Solve the system of inequalities by graphing. $\begin{cases} 6x + 8y \geq -16 \\ -3x + 5y \geq -37 \end{cases}$

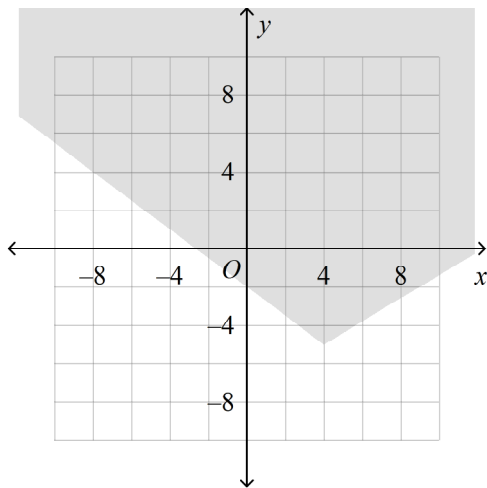
a.



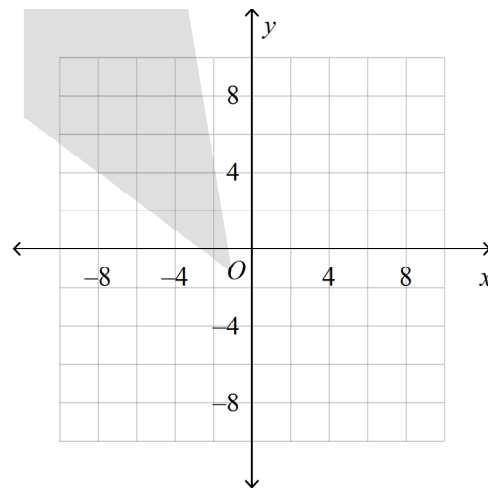
c.



b.



d.



21. Solve the quadratic equation by completing the square. $x^2 + 16x + 62 = 0$

a. $-16 \pm \sqrt{66}$

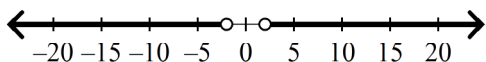
c. $256 \pm \sqrt{2}$

b. $8 \pm \sqrt{66}$

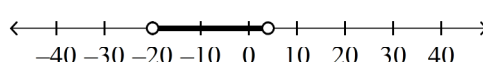
d. $-8 \pm \sqrt{2}$

22. Solve and Graph: $|2x + 8| < 12$

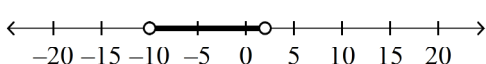
a. $x < -2$ or $x > 2$



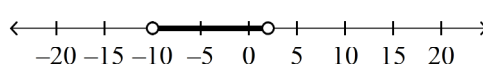
c. $-20 < x < 4$



b. $-10 > x > 2$



d. $-10 < x < 2$



23. Factor: $8x^2 - 50$

a. $(2x + 5)(2x - 5)$

c. $2(2x + 5)(2x - 5)$

b. $(2x - 5)(2x - 5)$

d. $2(2x + 5)(2x + 5)$

24. Solve: $x^2 + 10x + 25 = 64$

a. 13, -13

b. 3, -3

c. 13, -3

d. 3, -13

25. What are the zeros of the function $y = 2x^2 - 18$?

a. 0 and 3

c. 3 and -3

b. $-3\sqrt{2}$ and $3\sqrt{2}$

d. $2\sqrt{3}$ and $-2\sqrt{3}$

26. Simplify: $(1 - i) - (-3 + 4i)$

a. $-4 + 5i$

c. $4 - 5i$

b. $-2 + 3i$

d. $-1i$

27. Solve:
$$\begin{cases} 2x - 2y + z = -15 \\ 6x - 3y - z = -19 \\ 3x - y - z = -6 \end{cases}$$

a. $(-1, 3, 4)$

b. $(-3, 2, -5)$

c. $(1, 8, 0)$

d. $(1, 11, 5)$

28. Solve:
$$\begin{cases} 5x + 3y = -17 \\ 2x - 2y = -10 \end{cases}$$

a. $(-4, 1)$

b. $(-1, 4)$

c. $(4, -1)$

d. $(1, -4)$

29. Solve: $2x^2 - 2x - 4 = 0$

a. $\frac{19}{2}, -\frac{17}{2}$

b. 2, -1

c. 1, -2

d. 4, -2

30. Find the missing value to complete the square.

$x^2 + 16x + \underline{\hspace{2cm}}$

a. 4,096

b. 16

c. 256

d. 64

31. Factor: $4x^2 - 25$

a. $(2x + 5)(2x - 5)$

c. $(2x - 5)^2$

b. $(-2x + 5)(2x - 5)$

d. $(2x + 5)(-2x - 5)$

**Algebra 2 - Chapter 5 Practice Test
Answer Section**

1. A
2. C
3. B
4. B
5. A
6. C
7. B
8. C
9. D
10. C
11. D
12. C
13. C
14. B
15. B
16. D
17. A
18. A
19. D
20. B
21. D
22. D
23. C
24. D
25. B
26. C
27. B
28. A
29. B
30. D
31. A