

Chapter 7

1. Which ordered pair is the solution of the linear system: $y = \frac{1}{2}x + 1$ and $y = \frac{3}{2}x + 4$?

a) $(3, \frac{5}{2})$

b) $(-3, \frac{-1}{2})$

c) $(\frac{3}{2}, \frac{7}{4})$

d) (0,1)

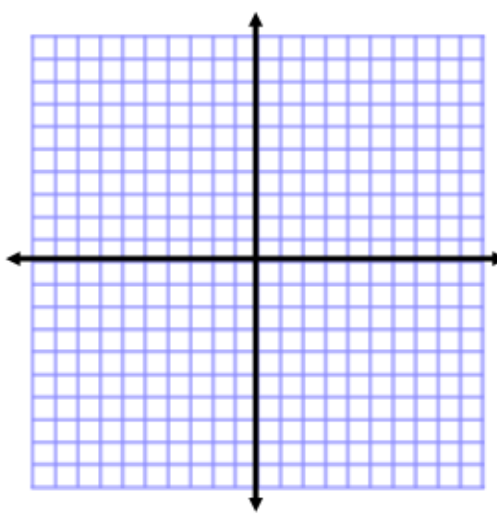
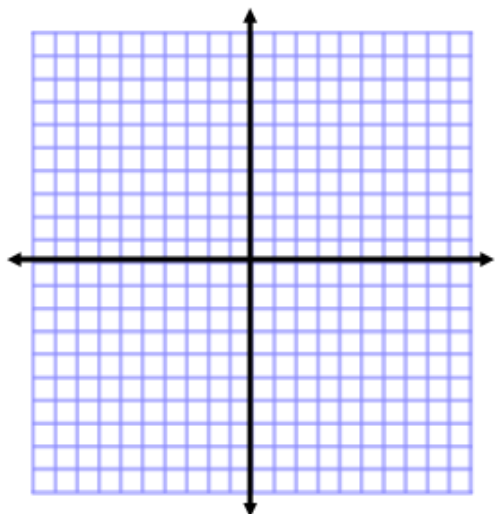
2-3. Solve each system by the graphing method.

2. $x + y = 4$

3. $2x + y = 6$

$x - y = 2$

$x + y = 4$



4-5. Solve by using the substitution property.

4. $y = 2x$

5. $x + 7 = 3y$

$4x - 3y = -4$

$3x + y = 9$

6-7. Solve by the elimination method.

6. $2x + y = 6$

7. $3c + 4d = -2$

$2x - y = -2$

$3c + d = -5$

8-10. Solve each system by using multiplication with the elimination method.

8. $2x + y = 11$

9. $2m + 3n = 10$

10. $3x - 2y = 3$

$3x - 4y = -11$

$m + 2n = 6$

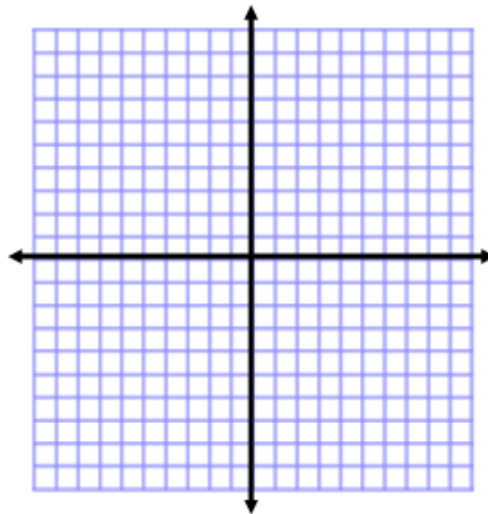
$-6x + 4y = -6$

11. You pay \$24.50 for 10 gallons of gas and 1 quart of oil at a gas station. Your friend pays \$22 for 8 gallons of the same gas and 2 quarts of the same oil. Find the cost of 1 quart of oil.

12. Graph the system of inequalities.

$$x > -2$$

$$y \leq \frac{2}{3}x + 1$$



Chapter 8

Simplify the expression.

1. $(-7)^9(-7)^2$

2. $(5^3)^8$

3. 6^0

4. $\frac{7^{10}}{7^4}$

5. $\left(\frac{a^8}{2b}\right)^4$

6. $-16x^3 \cdot (4x^{10})^2$

Simplify the expression. Do not leave negative exponents in your answers.

7. $2w^{-7}$

8. $(5g)^{-3}$

9. $\frac{1}{8c^{10}d^{-6}}$

Evaluate the expression. Write your answer in scientific notation.

10. $(2 \times 10^{-5})(3 \times 10^{-2})$

11. $(4 \times 10^{13})(5 \times 10^{-9})$

Geometric Sequence formula $a_n = a_1 \cdot r^{n-1}$

12. Write an equation for the n^{th} term of 4, 8, 16, 32,

13. Find the first 5 terms of the sequence of $a_1 = 568$, and $r = \frac{1}{2}$.

Chapter 9

State the degree and leading coefficient of the polynomial and classify it by the number of terms.

1. $4x - 2x^2 + 3$

Degree: _____ Leading coefficient: _____ Classification: _____

Find the sum or difference.

2. $(5m^2 + 3m + 4) - (2m^2 - 6m + 5)$

3. $(r^2 - 8 + 4r^3 + 5r) + (-7r^3 - 3r^2 + 5)$

4. Find the perimeter and area in terms of x of a rectangle whose length is $(3x - 11)$ cm and whose width is $(4x + 7)$ cm.

Perimeter: _____

Area: _____

Find the product.

5. $3x(2x^2 - 4x + 7)$

6. $(7x - 1)(9x - 5)$

7. $(5x + 9)^2$

8. $(3x - 2)(2x^2 - 5x + 6)$

Factor each polynomial using the most appropriate method.

9. $21ab^2 + 35ab$

10. $y^2 - 100$

11. $x^2 + 8x + 15$

12. $16x^2 - 49$

13. $d^2 - 3d - 28$

14. $7x^2 + 8x + 1$

15. $3k^2 - 10k - 8$

16. $3y^5 - 30y^4 + 75y^3$

Solve the equation.

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

19. $3x^2 - 9x = 0$

20. $x^2 + 8x - 9 = 0$

21. $3x^2 - 28 = 17x$

Chapter 10

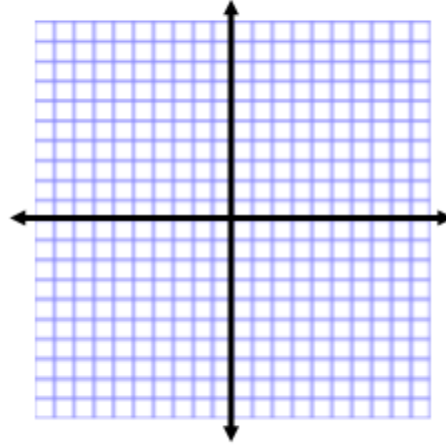
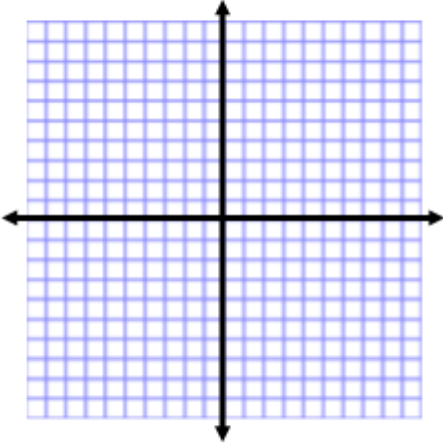
Graph the function. Find the vertex and axis of symmetry of the quadratic function.

1. $y = 4x^2 - 3$

2. $y = x^2 + 8x + 16$

x					
y					

x					
y					



Solve the equation using square roots.

3. $4(x + 2)^2 = 20$

4. $16x^2 - 9 = 0$

5. $4x^2 - 12 = -20$

Solve the quadratic equation by using the quadratic formula. Round your answers to the nearest hundredth if necessary.

10. $3x^2 - 8x = -4$

11. $x^2 - 4x = 10$

12. $2x^2 + 10x - 1 = 0$

Tell whether the equation has two solutions, one solution, or no solution. (Hint: use the discriminant)

13. $3x^2 + 6x + 2 = 0$

14. $5x^2 + 12x + 10 = 0$

15. $8x^2 - 24x + 18 = 0$

Chapter 11

Solve the equation.

1. $6\sqrt{x} - 30 = 0$

2. $3\sqrt{4x + 1} - 2 = 25$

3. $\sqrt{3x - 12} = \sqrt{5x - 26}$

Simplify the expression. Do not use decimals.

4. $6\sqrt{7} + 5\sqrt{7} - 3\sqrt{2}$

5. $\sqrt{12} + 3\sqrt{4} + \sqrt{27}$

Rewrite each radical using rational (fractional) exponents. Evaluate your answer if possible.

6. $\sqrt[5]{x}$

7. $\sqrt[4]{81x}$

Simplify each expression.

8. $x^{\frac{1}{2}} \cdot x^{\frac{2}{5}}$

9. $\left(y^{\frac{2}{3}}\right)^{\frac{1}{4}}$