Unity VIII. Verifying solutions of systems [36.1]

1. $2x + 3y = 13\ (3, 2) and (2, 3)$

2. $2x + 4y = -2\ (3, -2) and (-3, 2)$

3. $y = 2x + 4\ (-2, 1) and (-1, 2)$

4. $y = -3x - 8\ (1, -11) and (1, -5)$

1. $3x + 5y = 14\ (1, 3) and (3, 1)$

2. $2x + y = -8\ (5, -2) and (-5, 2)$

3. $y = 4x - 9\ (-2, 1) and (2, -1)$

4. $y = -5x + 8\ (-1, 13) and (1, 3)$

1. $x + 2y = 7\ (1, 3) and (-1, -3)$

2. $3x + 2y = -14\ (-4, -1) and (-1, -4)$

3. $y = 3x + 5\ (-1, -3) and (-2, -1)$

4. $y = -x - 5\ (-4, -2) and (-2, -3)$

Verifying solutions of systems [36.2]

5. $2x + 3y = 13,\ y = 2x - 1\ (2, 3)$ 5. $3x + 5y = 14\ ,y = 3x - 8\ (3, 1)$ 5. $x + 2y = 7\ ,y = x + 2\ (1, 3)$

6. $2x + 4y = -2,\ x = y + 5\ (3, -2)$ 6. $2x + y = -8\ ,x = y - 7\ (-5, 2)$ 6. $3x + 2y = -14,\ x = 2y - 2\ (-4, -1)$

7. $y = 2x + 4\ ,2x - 3y = -8\ (-1, 2)$ 7. $y = 4x - 9\ 3x - 2y = 8\ (2, -1)$ 7. $x - 2, y = 5\ y = 3x + 5\ (-1, -3)$

8. $y = -3x - 8\ ,y = 2x + 7\ (1, -1)$ 8. $y = -5x + 8,\ y = 4x - 10\ (-1, 13)$ 8. $y = -x - 5,\ y = 3x + 11\ (-4, -1)$

Solving systems by substitution [37.1]

1. $2x + 3y = 13,\ y = 2x - 1$

2. $2x + 4y = -2, x = y + 5$

1. $3x + 5y = 14,\ y = 3x - 8$

2. $2x + y = -8, x = y - 7$

1. $x + 2y = 7, y = x + 2$

2. $3x + 2y = -14, x = 2y - 2$

3. $2x - 3y = -8, y = 2x + 4$

4. $y = -3x - 8. y = 2x + 7$

3. $3x - 2y = 8, y = 4x - 9$

4. $y = -5x + 8, y = 4x - 10$

3. $x - 2y = 5, y = 3x + 5$

4. $y = -x - 5, y = 3x + 11$

Solving systems by elimination [38.1]

1. $2x + 3y = 13, -2x + y = -1$

2. $2x + 4y = -2, 4x - 4y = 20$

1. $3x + 5y = 14, -3x + y = -8$

2. $2x + y = -8, x - y = -7$

1. $x + 2y = 7, -x + y = 2$

2. $3x + 2y = -14, x - 2y = -2$

3. $2x + 3y = 13, -4x + 2y = -2$

3. $3x + 5y = 14, -6x + 2y = -16$

3. $3x + 6y = 21, -x + y = 2$

4. $3x + 6y = -3, 4x - 4y = 20$

4. $4x + 2y = -16, 3x - 3y = -21$

4. $9x + 6y = 63, 5x - 10y = -5$

5. $3x + 2y = 1\,, x - 5y = 6$

6. $3x - 2y = 14\,, 2x - 5y = 13$

5. $3x + 2y = 10\,, x - 5y = 9$

6. $3x - 2y = 19\,, 2x - 5y = 20$

5. $3x + 2y = 8\,, x - 5y = 14$

6. $3x - 2y = 6\,, 2x - 5y = -7$

Scientific Notation [39.1]

Convert to Standard Notation

1. 1.5×10^{2}
2. 1.5×10^{-2}
3. 9.005×10^{1}
4. 9.005×10^{-1}

1. 5.25×10^{3}
2. 5.25×10^{-3}
3. 7.0075×10^{1}
4. 7.0075×10^{-1}

1. 8.125×10^{4}
2. 8.125×10^{-4}
3. 5.9×10^{1}
4. 5.9×10^{-1}

Convert to Scientific Notation

5. 13500
6. 0.013500

5. 456000
6. 0.00456

5. 8702000
6. 0.8702

7. 103500

7. 4005600

7. 80070250

8. 0.00105

8. 0.005006

8. 0.00001

Scientific Notation

Convert to Scientific Notation

9. 900.5×10^{1}

9. 70.075×10^{1}

9. 590×10^{1}

10. 900.5×10^{-1}

10. 70.075×10^{-1}

10. 590×10^{-1}

11. 0.015×10^{2}

11. 0.0525×10^{3}

11. 0.8125×10^{4}

12. 0.015×10^{-2}

12. 0.0525×10^{-3}

12. 0.8125×10^{-4}

13. $(1.5\times10^{2})(1.5\times10^{3})$

14. $(0.8\times10^{3})(0.8\times10^{-4})$

15. $(0.12\times10^{-2})(0.12\times10^{-3})$

16. $(0.05\times10^{6})(0.05\times10^{-3})$

13. $(1.4\times10^{3})(1.4\times10^{4})$

14. $(0.9\times10^{2})(0.9\times10^{-5})$

15. $(0.16\times10^{-1})(0.16\times10^{-2})$

16. $(0.09\times10^{5})(0.09\times10^{-2})$

13. $(1.4\times10^{1})(1.5\times10^{4})$

14. $(0.8\times10^{1})(0.9\times10^{-4})$

15. $(0.12\times10^{-1})(0.16\times10^{-3})$

16. $(0.05\times10^{6})(0.09\times10^{-2})$

Solve:

1.The distance varies directly with the speed. The distance traveled is 150 miles while the speed is 60 mph. What will the distance be if the speed is changed to 50 mph?

2. The area of a circle varies directly with its radius squared. The area is 28.26 cm^2 while the radius is 3 cm.| What would the area be if the radius was 2 cm?

1.The distance varies directly with the speed. The distance traveled is 300 miles while the speed is 50 mph. What will the distance be if the speed is changed to 60 mph?

2. The area of a circle varies directly with its radius squared. The area is 12.56 cm^2 while the radius is 2 cm.| What would the area be if the radius was 3 cm?

3.The price varies inversely with the demand.
The price is $250 while the demand is 100 orders.
How many units will be in demand if the price is $200?

4. To preserve the volume of cone, the height must vary inversely with the radius squared. The height is 90 ft while the radius is 2 ft. What would the height be if the the radius is 3 ft to preserve the volume?

3.The price varies inversely with the demand.
The price is $240 while the demand is 10 orders.
How many units will be in demand if the price is $200?

4. To preserve the volume of cone, the height must vary inversely with the radius squared. The height is 10 inches while the radius is 3 inches. What would the height be if the radius is 6 inches to preserve the volume?

5.The volume of a sphere varies directly with the radius cubed. The volume of the sphere is 13.5 m^3 while the radius is 1.5 m. What would the volume be if the radius was 1 m?

6. To preserve the volume of a square prism, the height must vary inversely with the side length squared. The height is 10 yards while the side length is 2 yards. What would the height be if the side length was 4 yards?

5.The volume of a sphere varies directly with the radius cubed. The volume of the sphere is 32 m^3 while the radius is 2 m. What would the volume be if the radius was 3 m?

6. To preserve the volume of a square prism, the height must vary inversely with the side length squared. The height is 90 yards while the side length is 1.5 yards. What would the height be if the side length was 3 yards?