

1.1 Interpret Given Bar Graphs

Answers

- | | | | | |
|---------------|-------------|--------------|-----------|-------|
| 1. \$3.60 | 2. \$3.20 | 3. Missouri | 4. Hawaii | |
| 5. \$45.00 | 6. Yes | 7. \$36.00 | 8. \$2.00 | |
| 9. \$3.20 | 10. Florida | 11. 83 Teams | 12. 2008 | |
| 13. 190 Teams | 14. False | 15. 81 | 16. False | 17. D |

1.2 Understanding and Interpreting Frequency Tables and Histograms

Answers

- | | | | | |
|-------------------|-------|------------------|----------|--------|
| 1. 33 | 2. 11 | 3. $\frac{1}{3}$ | 4. 33.3% | 5. 4 |
| 6. $\frac{4}{33}$ | 7. 4 | 8. True | 9. 19 | 10. 17 |
| 11. 10 | 12. 1 | 13. 14 | 14. 15 | 15. 0 |

1.3 Represent Real-World Data Using Bar Graphs, Frequency Tables and Histograms

Answers

- | | | | |
|--------------------|---------------------|------------|-------------------|
| 1. 11 | 2. 65 | 3. 30 | 4. 5 |
| 5. Yes | 6. 35 girls | 7. 37 boys | 8. $\frac{5}{35}$ |
| 9. $\frac{10}{35}$ | 10. $\frac{15}{35}$ | 11. 43% | 12. 72 |
| 13. True | 14. False | 15. Soccer | 16. Track |

1.4 Evaluate Numerical and Variable Expressions Using the Order of Operations

Answers

- | | | | | |
|--------|--------|--------|--------|--------|
| 1. 11 | 2. 8 | 3. 31 | 4. 13 | 5. 6 |
| 6. 23 | 7. 43 | 8. 31 | 9. 11 | 10. 20 |
| 11. 28 | 12. 30 | 13. 19 | 14. 10 | 15. 45 |

1.5 Connect Variable Expressions and the Order of Operations with Real World Problems

Answers

- | | | | |
|------------|--------------|--------------|---------------------|
| 1. $4.50x$ | 2. $7y$ | 3. $.89x$ | 4. $3.20x + .45$ |
| 5. $6x$ | 6. $\$6.75y$ | 7. $\$15x$ | 8. $\$3x + \35.00 |
| 9. $\$18$ | 10. 28 | 11. $\$3.56$ | 12. $\$13.25$ |
| 13. 24 | 14. 27 | 15. $\$60$ | 16. $\$47$ |

1.6 Evaluate Numerical and Variable Expressions Involving Powers

Answers

- | | | | | |
|----------|-----------|----------|-----------|----------|
| 1. 27 | 2. 16 | 3. 16 | 4. 64 | 5. 125 |
| 6. 64 | 7. 81 | 8. 64 | 9. 58 | 10. -9 |
| 11. 20 | 12. 6 | 13. 99 | 14. 96 | 15. 2 |
| 16. 32 | 17. 230 | 18. 16 | 19. -28 | 20. 84 |

1.7 Use the Order of Operations to Evaluate Powers

Answers

- | | | | |
|-----------|-----------|-----------|-------------|
| 1. 0 | 2. -1 | 3. 266 | 4. $27,648$ |
| 5. -43 | 6. 35 | 7. 232 | 8. 99 |
| 9. 108 | 10. -59 | 11. 112 | 12. 25 |
| 13. 170 | 14. -17 | 15. 221 | 16. -60 |

1.8 Evaluate Variable Expressions with Given Values

Answers

- | | | | | |
|----------|-----------|-----------|----------|-----------|
| 1. 55 | 2. 14 | 3. 76 | 4. 4 | 5. 14.5 |
| 6. 85 | 7. 31 | 8. 88 | 9. 62 | 10. 782 |
| 11. 92 | 12. 160 | 13. 123 | 14. 84 | 15. 46 |

1.9 Translate Verbal Phrases into Variable Expressions

Answers

- | | | | | |
|---------------|----------------|--------------|------------------|------------------|
| 1. $x + 12$ | 2. $x - 8$ | 3. $3x$ | 4. $y^2 + 5$ | 5. $x/2 + 7$ |
| 6. $4(x + 6)$ | 7. $2x/4$ | 8. $6x + 2x$ | 9. $x^2 + 7 - 4$ | 10. $x/3 + 12$ |
| 11. $5x + 6y$ | 12. $-4x - 16$ | 13. $8x/2$ | 14. $x/6 + -5y$ | 15. $x/4 + y/16$ |

1.10 Write and Evaluate Variable Expressions for Given Situations

Answers

- | | | | | |
|---------|---------|--------|---------|--------|
| 1. 24 | 2. 4 | 3. 36 | 4. 149 | 5. 13 |
| 6. 54 | 7. 6 | 8. 96 | 9. 147 | 10. 16 |
| 11. -20 | 12. -17 | 13. 80 | 14. -64 | 15. 47 |

1.11 Solve and Check Single-Variable Equations Using Mental Math and Substitution

Answers

- | | | | | |
|-------|--------|-------|-------|-------|
| 1. 18 | 2. 22 | 3. 59 | 4. 3 | 5. 6 |
| 6. 6 | 7. 9 | 8. 10 | 9. 40 | 10. 2 |
| 11. 4 | 12. 7 | 13. 6 | 14. 8 | 15. 3 |
| 16. 8 | 17. 16 | 18. 2 | 19. 9 | 20. 6 |

1.12 Solve Real World Problems by Writing and Solving Single Variable Equations

Answers

- | | |
|----------------------------|------------------------------|
| 1. $x + 3 = 12$, $x = 9$ | 2. $x - 9 = 14$, $x = 23$ |
| 3. $x + 6 = 30$, $x = 24$ | 4. $x - 9 = 5$, $x = 14$ |
| 5. $x - 6 = 12$, $x = 18$ | 6. $4x = 140$, $x = 35$ |
| 7. $27x = 162$, $x = 6$ | 8. $x/12 = 6$, $x = 72$ |
| 9. $x/5 = 14$, $x = 70$ | 10. $x + 19 = 40$, $x = 21$ |

1.13 Find Perimeter and Area of Square and Rectangles Using Formulas

Answers

- | | | | |
|--|--|----------|-----------|
| 1. $P = 20''$, $A = 25 \text{ in}^2$ | 2. $P = 16''$, $A = 15 \text{ sq. in}$ | | |
| 3. $P = 28 \text{ cm}$, $A = 48 \text{ sq. cm.}$ | 4. $P = 44 \text{ ft}$, $A = 121 \text{ sq. ft.}$ | | |
| 5. $P = 27''$, $A = 40.5 \text{ sq. in.}$ | 6. $P = 28 \text{ ft}$, $A = 49 \text{ sq. ft.}$ | | |
| 7. $P = 46 \text{ m}$, $A = 132 \text{ sq. m}$ | 8. $P = 52 \text{ m}$, $A = 169 \text{ sq. m}$ | | |
| 9. $P = 46 \text{ ft}$, $A = 120 \text{ sq. ft.}$ | 10. $P = 50 \text{ ft.}$, $A = 156.25 \text{ sq. ft}$ | | |
| 11. 8 in | 12. 6 in | 13. 9 m | 14. 10 in |
| 15. 12 ft | 16. 11 cm | 17. 2 mm | |

1.14 Use the Formulas for Distance to Find Distances, Rates and Times

Answers

- | | | | |
|--------------|---------------|--------------------|-----------------|
| 1. 132 miles | 2. 330 miles | 3. 520 miles | 4. 600 miles |
| 5. 840 miles | 6. 950 miles | 7. 605 miles | 8. 630 miles |
| 9. 840 miles | 10. 580 miles | 11. 855 miles | 12. 1,386 miles |
| 13. 15 hours | 14. 50 mph | 15. 5 minute miles | 16. 8 hours |

1.15 Understand the Problem Solving Plan

Answers

- | | |
|----------------------|------------------------------|
| 1. Working Backwards | 2. You are looking for a sum |
| 3. Min x cost | 4. $.12(20) + .75 + .85 = x$ |
| 5. \$4.00 | 6. Pattern |
| 7. Weeks needed | 8. $25x + 75 = 500$ |
| 9. 17 weeks | 10. Pattern |
| 11. No sum | 12. \$24.70 |
| 13. \$49.40 | 14. \$4.50 |
| 15. \$9.00 | 16. \$36.00 |

1.16 Solve Real World Problems by Using Strategies and a Plan

Answers

- | | |
|-----------------------|----------------------|
| 1. Look for a Pattern | 2. Draw a diagram |
| 3. 6 weeks | 4. Write an equation |
| 5. \$14.75 | 6. \$44.25 |
| 7. Equation | 8. $6(15) = x$ |
| 9. $90 = x$ | 10. 90 cookies |
| 11. Equation | 12. $2(90) = x$ |
| 13. $180 = x$ | 14. 180 brownies |
| 15. Equation | 16. \$135.00 |

2.1 Add and Subtract Decimals

Answers

- | | | | |
|------------|-----------|-----------|------------|
| 1. 19.72 | 2. 31.55 | 3. 35.734 | 4. 14.5 |
| 5. 13.36 | 6. 91.34 | 7. 131.29 | 8. 136.15 |
| 9. 23.33 | 10. 64.75 | 11. 75.66 | 12. 217.8 |
| 13. 663.23 | 14. 26.36 | 15. 26.46 | 16. 521.76 |

2.2 Estimate Decimal Sums and Differences Using Front- End Estimation

Answers

- | | | | | |
|--------|---------|--------|--------|--------|
| 1. 48 | 2. 60 | 3. 86 | 4. 68 | 5. 31 |
| 6. 9 | 7. 115 | 8. 35 | 9. 47 | 10. 45 |
| 11. 24 | 12. 291 | 13. 27 | 14. 15 | 15. 2 |

2.3 Multiply and Divide Decimals With and Without Rounding

Answers

- | | | | | |
|---------|---------|-----------|-----------|-----------|
| 1. 9 | 2. 32 | 3. 49 | 4. 80 | 5. 30 |
| 6. 30 | 7. 72 | 8. 40 | 9. 72 | 10. 160 |
| 11. 11 | 12. 4 | 13. 4 | 14. 2 | 15. 7 |
| 16. 6 | 17. 7 | 18. 5 | 19. 2 | 20. 2 |
| 21. 6.2 | 22. 3.5 | 23. 32.76 | 24. 28.81 | 25. .9177 |

2.4 Estimate Decimal Products and Quotients Using Leading Digits

Answers

- | | | | | | |
|--------|---------|--------|--------|--------|-------|
| 1. 7 | 2. 55 | 3. 3 | 4. 36 | 5. 4 | 6. 39 |
| 7. 3 | 8. 24 | 9. 32 | 10. 2 | 11. 3 | 12. 9 |
| 13. 81 | 14. 136 | 15. 42 | 16. 42 | 17. 12 | |

2.5 Identify and Apply Number Properties in Decimal Operations

Answers

- | | | | | |
|-------------------|--------------------|--------------------|-------------------|--------------------|
| 1. 19.5 | 2. 12.9 | 3. 9.2 | 4. 22.3 | 5. 31.31 |
| 6. 66.2 | 7. 12.1 | 8. 8.5 | 9. 16.35 | 10. 31.1 |
| 11. $6.4x + 12.8$ | 12. $15.6x - 10.4$ | 13. $25.2y + 25.2$ | 14. $19.8a - 2.2$ | 15. $53.6x + 60.3$ |

2.6 Add and Subtract Fractions and Mixed Numbers

Answers

- | | | | | |
|--------------------|--------------------|--------------------|--------------------|---------------------|
| 1. $\frac{2}{3}$ | 2. $\frac{3}{5}$ | 3. $\frac{7}{10}$ | 4. $\frac{5}{6}$ | 5. $\frac{5}{8}$ |
| 6. $\frac{13}{20}$ | 7. $\frac{3}{4}$ | 8. $\frac{1}{3}$ | 9. $\frac{1}{3}$ | 10. $\frac{3}{5}$ |
| 11. $\frac{4}{9}$ | 12. $\frac{3}{5}$ | 13. $5\frac{1}{2}$ | 14. $5\frac{3}{5}$ | 15. $8\frac{5}{6}$ |
| 16. $7\frac{3}{5}$ | 17. $2\frac{1}{3}$ | 18. $7\frac{3}{4}$ | 19. 11 | 20. $10\frac{1}{2}$ |

2.7 Estimate Sums and Differences of Fractions and Mixed Numbers

Answers

- | | | | | |
|------------------|-------------------|-------|-------|---------------------|
| 1. 1 | 2. $1\frac{1}{2}$ | 3. 7 | 4. 2 | 5. 1 |
| 6. $\frac{1}{2}$ | 7. 0 | 8. 5 | 9. 2 | 10. 26 |
| 11. 23 | 12. $\frac{1}{2}$ | 13. 0 | 14. 3 | 15. $27\frac{1}{2}$ |

2.8 Multiply and Divide Fractions and Mixed Numbers

Answers

- | | | | | | |
|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|
| 1. $\frac{3}{8}$ | 2. $\frac{5}{8}$ | 3. $\frac{1}{18}$ | 4. $\frac{25}{36}$ | 5. $\frac{7}{24}$ | 6. $\frac{8}{27}$ |
| 7. $\frac{4}{11}$ | 8. $\frac{3}{5}$ | 9. $\frac{2}{7}$ | 10. $1\frac{1}{2}$ | 11. $2\frac{1}{2}$ | 12. $1\frac{7}{9}$ |
| 13. $1\frac{7}{8}$ | 14. $2\frac{2}{3}$ | 15. 1 | 16. 1 | 17. $1\frac{5}{7}$ | 18. $2\frac{1}{2}$ |

2.9 Estimate Products and Quotients of Fractions and Mixed Numbers

Answers

1. 1	2. 4	3. 7	4. 24	5. 60
6. 60	7. 21	8. 4	9. 8	10. 4
11. 5	12. 5	13. 3	14. 8	15. 10

2.10 Identify and Apply Number Properties in Fraction Operations

Answers

1. Additive Inverse Property	2. Additive Inverse Property	3. Zero Property
4. Zero Property	5. Multiplicative Inverse	6. Commutative Property
7. Commutative Property	8. Associative Property	9. $1x$
10. $\frac{1}{3}x$	11. $1x$	12. $2\frac{1}{4}x$
13. $1\frac{9}{10}$	14. $\frac{4}{15}$	15. $1\frac{1}{2}x$

2.11 Add and Subtract Integers

Answers

1. 13	2. -3	3. 0	4. -4	5. 6
6. 5	7. -21	8. -26	9. -23	10. -48
11. -14	12. -15	13. -20	14. -3	15. -5
16. 23	17. 16	18. 32	19. -3	20. -3

2.12 Multiply and Divide Integers

Answers

1. 48	2. -50	3. -12	4. -12	5. -72
6. -108	7. -88	8. 45	9. 56	10. -144
11. -6	12. 3	13. -2	14. 20	15. 2
16. 7	17. -9	18. 5	19. -3	20. 34

2.13 Identify and Apply Number Properties in Integer Operations

Answers

- | | | |
|--------------------------|-------------------------------|-------------------------------------|
| 1. Commutative Property | 2. Additive Identify Property | 3. Associative Property |
| 4. Commutative Property | 5. Distributive Property | 6. Multiplicative Identity Property |
| 7. Distributive Property | 8. $y - 20$ | 9. $-5x + 20$ |
| 10. $3x + 7 - 3y$ | 11. $-6y - 24$ | 12. $-y + 18$ |
| 13. $5x + 26$ | 14. $-45y$ | 15. 5 |

2.14 Use Simple Interest Equations to Solve Real World Problems

Answers

- | | | |
|---------------------------|---------------------|------------------------|
| 1. \$120 | 2. -120 | 3. $-15 + 40 = 30$ ft. |
| 4. $-50 + 5 = -45$ | 5. $5 + 20 - x = 7$ | 6. 18 |
| 7. $-15 + -5 + -3.50 = x$ | 8. $-\$23.50$ | 9. yes |
| 10. \$6.50 | 11. -3 | 12. 37 inches |
| 13. 23 inches | 14. $-15 + -35 = x$ | 15. -50 ft. |

2.15 Find Equivalent Forms of Rational Numbers

Answers

- | | | |
|--------------------------|-----------------------------|----------------------------------|
| 1. Yes, Decimal | 2. Yes, Fraction | 3. Yes, integer |
| 4. Yes, integer | 5. yes, integer | 6. Yes, repeating decimal |
| 7. No, irrational number | 8. yes, terminating decimal | 9. Yes, rational number, decimal |
| 10. Yes, fraction | 11. 80% | 12. 20% |
| 13. 28% | 14. 12% | 15. 24% |

2.16 Compare and Order Rational Numbers

Answers

- | | | | |
|---------|--------|---------|---------|
| 1. < | 2. > | 3. < | 4. < |
| 5. < | 6. > | 7. > | 8. > |
| 9. > | 10. < | 11. 1.5 | 12. 3 |
| 13. -59 | 14. -4 | 15. 5 | 16. -20 |

2.17 Solve Real World Problems Using Rational Numbers and Simple Equations

Answers

- | | | | | |
|-------------|------------|------------------|----------------|-----------------|
| 1. 210 | 2. 372 | 3. 1,920 | 4. \$138.00 | 5. \$165.50 |
| 6. \$145.00 | 7. 8 weeks | 8. 12 | 9. 6 ½ hours | 10. L = 90.5 cm |
| 11. 195 cm | 12. 172 cm | 13. 2,096 sq. cm | 14. 480 sq. cm | 15. 8 cm |

3.1 Solve Equations Involving Inverse Properties of Addition and Multiplication

Answers

1. 6	2. 3	3. 5	4. 2	5. 8
6. 3	7. 2	8. 5	9. 20	10. 6
11. 1	12. 11	13. 9	14. 15	15. 7

3.2 Solve Equations Involving Inverse Properties of Addition and Division

Answers

1. 12	2. 10	3. 36	4. 234	5. 72
6. 108	7. 98	8. 77	9. 84	10. 28
11. 66	12. 8	13. 98	14. 120	15. 153

3.3 Solve Equations Involving Inverse Properties of Subtraction and Multiplication

Answers

1. 4	2. 6	3. 6	4. 5
5. 6	6. 9	7. 13	8. 9
9. 6	10. 7	11. 12	12. 7
13. 3	14. 6	15. 2	16. 3

3.4 Solve Equations Involving Inverse Properties of Subtraction and Division

Answers

1. 60	2. 66	3. 119	4. 128
5. 112	6. 58	7. 40	8. 63
9. 70	10. 64	11. 24	12. 91
13. 40	14. 104	15. 78	16. 54

3.5 Solve Equations Involving Combining Like Terms

Answers

- | | | |
|--------------|---------------|--------------|
| 1. $11x + 2$ | 2. $2y + 8$ | 3. $16x - 4$ |
| 4. $15x - 8$ | 5. $-8y + 16$ | 6. $9x - 1$ |
| 7. 2 | 8. 6 | 9. -5 |
| 10. -1 | 11. 2 | 12. 4 |
| 13. 7 | 14. -8 | 15. -5 |

3.6 Solve Equations with the Distributive Property

Answers

- | | | | | |
|--------|--------|-------|-------|---------|
| 1. 2 | 2. 1 | 3. 6 | 4. 5 | 5. 15 |
| 6. 9 | 7. -4 | 8. 3 | 9. 9 | 10. -12 |
| 11. -4 | 12. -1 | 13. 8 | 14. 6 | 15. -1 |

3.7 Solve Equations with the Distributive Property and Combining Like Terms

Answers

- | | | | | |
|-------|--------|-------|-------|-------|
| 1. 4 | 2. 2 | 3. 3 | 4. 4 | 5. 9 |
| 6. 2 | 7. 10 | 8. 9 | 9. -5 | 10. 6 |
| 11. 3 | 12. -6 | 13. 9 | 14. 3 | 15. 4 |

3.8 Solve Equations with Variables on Both Sides

Answers

- | | | | | | |
|-------|-------|--------|--------|---------|---------|
| 1. 4 | 2. 6 | 3. -6 | 4. -10 | 5. 8 | 6. -3 |
| 7. -2 | 8. 6 | 9. -10 | 10. -2 | 11. -2 | 12. 2 |
| 13. 3 | 14. 2 | 15. -2 | 16. 4 | 17. -11 | 18. -12 |
| 19. 1 | 20. 1 | 21. -3 | 22. -4 | | |

3.9 Solve Multi- Step Equations Involving Decimals

Answers

1. 4	2. 20	3. 120	4. 9	5. 90
6. 30	7. 3	8. 3	9. 5	10. 6
11. 4	12. .48	13. 2.25	14. 11	15. -7

3.10 Solve Multi – Step Equations Involving Fractions

Answers

1. 27	2. 12	3. 10	4. 8	5. $\frac{5}{7}$
6. $\frac{4}{7}$	7. 16	8. 96	9. 48	10. $27\frac{2}{7}$
11. 50	12. 12	13. 1	14. 1	15. $\frac{1}{4}$

3.11 Solve Multi- Step Equations Involving Rational Numbers

Answers

1. 3	2. -31	3. $\frac{3}{5}$	4. 9	5. $\frac{2}{3}$
6. $4\frac{1}{4}$	7. .5	8. -2	9. 12	10. $1\frac{1}{3}$
11. 36	12. 60	13. 30	14. 68	15. 3

3.12 Write and Graph Inequalities

Answers

1. {1, 2, 3}	2. {6, 7, 8}	3. {-1, 0, 1}
4. {-2, -1, 0}	5. {13, 14, 15}	6. {4, 3, 2...}
7. {3, 4, 5...}	8. {-3, -2, -1...}	9. {-5, -6, -7...}
10. {11, 12, 13...}	11. $x \leq -8$	12. $x > 50$
13. $x < -4$	14. $x > -12$	15. $x \geq -11$

3.13 Solve Inequalities Using Addition or Subtraction

Answers

- | | | | | |
|----------------|--------------|------------------|---------------|----------------|
| 1. $x > 6$ | 2. $y < 31$ | 3. $a < -1$ | 4. $b \geq 2$ | 5. $y \leq -2$ |
| 6. $x \geq -6$ | 7. $x < -14$ | 8. $x > 1$ | 9. $y > 15$ | 10. $a \geq 5$ |
| 11. $b > 6$ | 12. $x > 13$ | 13. $a \leq -12$ | 14. $x > 13$ | 15. $y > -46$ |

3.14 Solve Inequalities Using Multiplication

Answers

- | | | | | |
|--------------|------------------|------------------|------------------|-------------------|
| 1. $a < 30$ | 2. $x > 40$ | 3. $b < 100$ | 4. $x > 500$ | 5. $c \leq 40$ |
| 6. $x > 42$ | 7. $y \leq 18$ | 8. $y \geq 55$ | 9. $x < 6$ | 10. $y \geq -56$ |
| 11. $x < -6$ | 12. $y \leq -12$ | 13. $x \geq -22$ | 14. $a \geq -39$ | 15. $x \geq -110$ |

3.15 Solve Inequalities Using Division

Answers

- | | | | | |
|---------------|-----------------|----------------|-----------------|----------------|
| 1. $x < 4$ | 2. $x > 12$ | 3. $x < 12$ | 4. $x > 9$ | 5. $x > 11$ |
| 6. $x \leq 4$ | 7. $x \geq 3$ | 8. $x \leq 4$ | 9. $x > 3$ | 10. $x \leq 4$ |
| 11. $x > -9$ | 12. $n \leq -7$ | 13. $n \geq 9$ | 14. $x \geq -2$ | 15. $y > -2$ |

3.16 Solving Inequalities Involving Combining Like Terms

Answers

- | | | | |
|----------------|-----------------|----------------|------------------|
| 1. $x > 9$ | 2. $x < 3$ | 3. $y > 10$ | 4. $x \leq -1/2$ |
| 5. $x \geq -2$ | 6. $x \leq 2$ | 7. $x > 12$ | 8. $x < -4$ |
| 9. $x > -60$ | 10. $x > -10$ | 11. $k > 3$ | 12. $x \leq 4$ |
| 13. $j < 6$ | 14. $b \geq -4$ | 15. $n \leq 5$ | 16. $z < -7$ |

3.17 Solve Inequalities Using the Distributive Property

Answers

- | | | | | |
|-----------------|-----------------|--------------|-------------|-----------------|
| 1. $x > 3$ | 2. $x < 3$ | 3. $y < 7$ | 4. $x < -4$ | 5. $x \geq 19$ |
| 6. $y \leq -12$ | 7. $x \leq 18$ | 8. $y > 1$ | 9. $x < -5$ | 10. $x \leq 6$ |
| 11. $y < -4$ | 12. $x \geq 32$ | 13. $x > -5$ | 14. $y < 1$ | 15. $x \leq -2$ |

3.18 Write and Solve Multi-Step Inequalities Given Problem Situations

Answers

- | | | |
|-------------------------------|---|---|
| 1. $16 \leq x \leq 25$ | 2. $16 \leq x, x \leq 25$ | 3. Range from 16 to 25 |
| 4. $-5 > 1/3n > 3$ | 5. $1/3n < -5$ or $1/3 > 3$ | 6. $n < -15$ or $n > 9$ |
| 7. $-5 < 2n \geq 9$ | 8. $n < -2 \frac{1}{2}$ or $n \geq 4 \frac{1}{2}$ | 9. $n < -2 \frac{1}{2}$ or $n \geq 4 \frac{1}{2}$ |
| 10. $8 < w + 3 < 12$ | 11. $5 < w$ and $w < 9$ | 12. No |
| 13. Range between \$6 and \$8 | 14. $30 \leq 3g \leq 105$ | 15. 10 – 35 gallons of gasoline |

4.1 Write, Compare, and Order Ratios

Answers

- | | | |
|---------------------|------------------------|---------------------------|
| 1. 16:3, 16/3 | 2. $\frac{4}{5}$, 4:5 | 3. $\frac{1}{4}$, 1 to 4 |
| 4. 12:1, 12 to 1 | 5. 6/11, 6 to 11 | 6. 33/100, 33: 100 |
| 7. 4 to 9, 4:9 | 8. $\frac{3}{4}$, 3:4 | 9. 45/12, 45:12 |
| 10. 12/12, 12 to 12 | 11. $\frac{1}{3}$ | 12. $\frac{1}{4}$ |
| 13. 6/1 | 14. $\frac{1}{2}$ | 15. $\frac{1}{5}$ |

4.2 Use Unit Rates and Equivalent Rates

Answers

- | | | | | |
|------------|-----------|----------|------------------|---------------|
| 1. 8/14 | 2. 8/22 | 3. 14/22 | 4. $\frac{4}{7}$ | 5. 4/11 |
| 6. 7/11 | 7. 60/90 | 8. 45/20 | 9. 60/150 | 10. 45/65 |
| 11. 90/150 | 12. 20/65 | 13. 240 | 14. \$1.62 | 15. 1.5 hours |

4.3 Write and Solve Proportions by Using Equal Rates

Answers

- | | | | |
|--------|--------|--------|---------|
| 1. 9 | 2. 10 | 3. 14 | 4. 18 |
| 5. 55 | 6. 24 | 7. 90 | 8. 21 |
| 9. 49 | 10. 42 | 11. 18 | 12. 28 |
| 13. 39 | 14. 3 | 15. 7 | 16. 168 |

4.4 Write and Solve Proportions by Using Cross- Products

Answers

- | | | | | |
|--------|---------|---------|---------|---------|
| 1. 1.5 | 2. 2.9 | 3. 2.5 | 4. 17.1 | 5. 7.5 |
| 6. 1 | 7. 20 | 8. 120 | 9. 12.5 | 10. 6 |
| 11. 8 | 12. 1.3 | 13. 800 | 14. 414 | 15. 120 |

4.5 Connect Proportions to Real World Situations

Answers

- | | | | | |
|----------------|----------------|----------------|-------------------|------------------|
| 1. \$150 | 2. \$75 | 3. \$50 | 4. \$250 | 5. 14 miles |
| 6. 28 miles | 7. 157.5 miles | 8. 315 miles | 9. \$10.75 | 10. .83 |
| 11. 219 flyers | 12. 16 flyers | 13. 525 flyers | 14. 214.2 minutes | 15. 212.5 points |

4.6 Use Unit Scale When Problem Solving

Answers

- | | | | | |
|----------|---------|-----------|---------|-----------|
| 1. 9 in. | 2. 4 in | 3. 2.5 in | 4. 6 in | 5. 12 in. |
| 6. 8 | 7. 12 | 8. 18 | 9. 24 | 10. 28 |
| 11. 8 | 12. 12 | 13. 16 | 14. 24 | 15. 48 |

4.7 Use Scale Factor When Problem Solving

Answers

- | | | | | |
|-------------------|------------------------------------|------------------|--------------------|--------------------|
| 1. $\frac{1}{4}$ | 2. $\frac{1}{4}$ | 3. $\frac{1}{4}$ | 4. $\frac{1}{3}$ | 5. $\frac{1}{2}$ |
| 6. $\frac{1}{2}$ | 7. $\frac{1}{7}$ | 8. $\frac{1}{2}$ | 9. $\frac{4.5}{1}$ | 10. $\frac{1}{16}$ |
| 11. $\frac{1}{4}$ | 12. $6.5 \times 9.75 \times 16.25$ | 13. .2 | 14. .1 | 15. 300 feet |

4.8 Read and Interpret Scale Drawings and Floor Plans

Answers

- | | | | | |
|---------------------|--------------------------|-----------------|----------------|---------------------|
| 1. 9 ft | 2. 18 ft | 3. 108 sq. ft. | 4. 42 ft | 5. 12×9 ft |
| 6. 12×9 ft | 7. 108 sq. ft. | 8. 30 ft. | 9. 100 sq. in | 10. 500 ft |
| 11. 250,000 ft | 12. $\frac{1}{3}$ as big | 13. 7 ft x 5 ft | 14. 200 sq. ft | 15. 400 sq. ft |

4.9 Read and Interpret Maps Involving Distance and Area

Answers

- | | | | |
|---------------|---------------|----------------|----------------|
| 1. 3" | 2. 2" | 3. 5" | 4. 1.5" |
| 5. 6" | 6. 11" | 7. 2.5" | 8. 200 miles |
| 9. 400 miles | 10. 600 miles | 11. 50 miles | 12. 150 miles |
| 13. 300 miles | 14. 500 miles | 15. 1100 miles | 16. 1400 miles |

4.10 Understand Three – Dimensional Scale Models and Designs

Answers

- | | | | | |
|-----------|-----------|--------------------------|-------------|--------------|
| 1. 15 ft | 2. 25 ft. | 3. 1,875 ft ³ | 4. 1.125 km | 5. Elevation |
| 6. True | 7. False | 8. True | 9. True | 10. True |
| 11. False | 12. True | 13. True | 14. True | 15. False |

4.11 Understanding Scale Relationships

Answers

- | | | |
|-------------------------|---------------------------|-------------------------|
| 1. 512/4096 | 2. 27/3.375 | 3. 6 ft ³ |
| 4. 125/3375 | 5. 1536/24 | 6. 4000 in ³ |
| 7. 576 ft ³ | 8. 48 ft ² | 9. 144 ft ³ |
| 10. 288 ft ³ | 11. 1,152 ft ³ | 12. lw/lwh |
| 13. height | 14. True | 15. False |

4.12 Convert Customary Units of Measurement

Answers

- | | | | |
|--------------|---------------|---------------|----------------|
| 1. 8.5 ft | 2. 400 ounces | 3. 10 gallons | 4. .075 tons |
| 5. 72 inches | 6. 30 ft | 7. 66 inches | 8. 75 ft |
| 9. 2 pounds | 10. 20 pounds | 11. 96 ounces | 12. 240 ounces |
| 13. 3 pints | 14. 12 quarts | 15. 16 pints | 16. 12 quarts |

4.13 Convert Customary Units of Measurement in Real World Situations

Answers

- | | | |
|----------------|----------------|-------------------|
| 1. 15,840 feet | 2. 64 ounces | 3. 8000 pounds |
| 4. 24 ounces | 5. 6 pints | 6. 4 gallons |
| 7. 12 feet | 8. 144 inches | 9. yes |
| 10. 2 cups | 11. 2 pounds | 12. 20 miles |
| 13. 25 feet | 14. 6,600 feet | 15. 7,920 sq. ft. |

4.14 Convert Metric Units of Measurement

Answers

- | | | |
|----------------|-----------|-----------------|
| 1. 3000 meters | 2. 2 km | 3. 5,500 meters |
| 4. 2.5 km | 5. 12 km | 6. 5 meters |
| 7. 60 meters | 8. 400 cm | 9. 1100 cm |
| 10. 5 cm | 11. 30 mm | 12. 150 mm |
| 13. 2 kg | 14. 35 kg | 15. 7000 grams |

4.15 Convert Metric Units of Measurement in Real World Situations

Answers

- | | | |
|------------------|-----------------|-------------------|
| 1. 7 cm | 2. 20 cm | 3. 13 cm |
| 4. 1 cm | 5. 5 cm | 6. 4.4 cm |
| 7. 9 cm | 8. 8 cm | 9. 6 cm |
| 10. 22 cm | 11. .1 kg | 12. 36 km |
| 13. 1,250 meters | 14. 1500 sq. cm | 15. 10,000 meters |

4.16 Use Metric and Customary Units of Measurement in Problem Solving

Answers

- | | | |
|-----------------|--------------------|----------------|
| 1. 2.54 cm | 2. 7.62 cm | 3. 1.96 in |
| 4. 30.48 cm | 5. 91.44 cm | 6. 91.44 cm |
| 7. .9144 meters | 8. 2.74 meters | 9. 26.25 yards |
| 10. 59 feet | 11. 2.9 kilometers | 12. 6.2 miles |
| 13. 18.6 miles | 14. 9.3 miles | 15. 16.1 miles |

4.17 Solve Problems involving Rates and Unit Analysis

Answers

- | | | |
|---------------|----------------|---------------|
| 1. 80 km | 2. 360 miles | 3. $d = rt$ |
| 4. 32.5 miles | 5. 384 minutes | 6. 780 miles |
| 7. 6 hours | 8. 30 minutes | 9. Speed |
| 10. $r = d/t$ | 11. 200 mph | 12. 35 hours |
| 13. 840 km | 14. 5529.6 km | 15. $D = .25$ |

5.1 Recognize and Write Percents

Answers

- | | | | |
|-------------|---------------|--------------|--------------|
| 1. $64/100$ | 2. $3/100$ | 3. $119/100$ | 4. $4.7/100$ |
| 5. $88/100$ | 6. $99.5/100$ | 7. $12/100$ | 8. $14/100$ |
| 9. 12% | 10. 13.5% | 11. 87% | 12. 99% |
| 13. 5% | 14. 3.5% | 15. 130% | 16. 175% |

5.2 Write Percents as Decimals

Answers

- | | | | |
|-----------|-----------|----------|-----------|
| 1. .18 | 2. .357 | 3. .0609 | 4. .00008 |
| 5. .00028 | 6. .009 | 7. .315 | 8. .123 |
| 9. 52% | 10. 2% | 11. 117% | 12. 500% |
| 13. 9% | 14. 87.6% | 15. 30% | 16. .01% |

5.3 Write Percents as Fractions

Answers

- | | | | | |
|-----------|-----------|-----------|-----------|-----------|
| 1. $4/25$ | 2. $2/5$ | 3. $1/50$ | 4. $1/25$ | 5. $9/20$ |
| 6. $1/5$ | 7. $9/50$ | 8. $1/10$ | 9. 67% | 10. 77% |
| 11. 5% | 12. 1050% | 13. 80% | 14. 60% | 15. 12% |

5.4 Find the Percent of a Number

Answers

- | | | | | |
|----------|--------|-------------|----------|---------|
| 1. 27 | 2. .36 | 3. 126 | 4. 32.67 | 5. 18 |
| 6. 5.76 | 7. 5.5 | 8. 4.35 | 9. 9.6 | 10. 16 |
| 11. 31.5 | 12. 27 | 13. $6/100$ | 14. 150 | 15. 80% |

5.5 Use Proportions to Find Percents

Answers

- | | | | | |
|----------|----------|-----------|-----------|----------|
| 1. 46.7% | 2. 1.36% | 3. 94.1% | 4. 75% | 5. 60% |
| 6. 20% | 7. 27% | 8. 72% | 9. 75% | 10. 1.7% |
| 11. 50% | 12. 7.3% | 13. 49.5% | 14. 30.3% | 15. 4.1% |

5.6 Use Proportions to Solve Percent Problems

Answers

- | | | | | |
|-----------|---------------|-----------------|-----------------|----------|
| 1. 19.55 | 2. 105 | 3. 3.05 | 4. 3 | 5. 2 |
| 6. 61,750 | 7. 400 | 8. 810.8 or 811 | 9. 1.18 | 10. 3.03 |
| 11. 4 | 12. \$2228.57 | 13. 26.25 | 14. 2400 pounds | 15. 15% |

5.7 Use the Percent Equation to Find Part a

Answers

- | | | | | |
|-----------|---------|------------|----------|---------|
| 1. 11 | 2. 3.5 | 3. 120,000 | 4. 5.4 | 5. 12.3 |
| 6. 57 | 7. 9.5 | 8. 85 | 9. 222.8 | 10. 21 |
| 11. 105.1 | 12. 7.7 | 13. 6.3 | 14. 1.8 | 15. 3.6 |

5.8 Use the Percent Equation to Find the Percent

Answers

- | | | | | |
|----------|---------|---------|----------|---------|
| 1. 13.7% | 2. 94% | 3. 86% | 4. 44% | 5. 49% |
| 6. 14% | 7. 17% | 8. 38% | 9. 33.4% | 10. 25% |
| 11. 3% | 12. 76% | 13. 37% | 14. 50% | 15. 61% |

5.9 Use the Percent Equation to Find the Base,b

Answers

1. 255.6	2. 28.6	3. 707.3	4. 725	5. 72.5
6. 13.4	7. 1650	8. 155.6	9. 74.6	10. 73.3
11. 50	12. 68.7	13. 141.8	14. 133.3	15. 1812.5

5.10 Find the Percent of Increase

Answers

1. 71%	2. 61%	3. 35%	4. 88%	5. 15%
6. 11%	7. 21%	8. 44%	9. 25%	10. 68%
11. 33%	12. 9%	13. 3%	14. 49%	15. 2%

5.11 Find the Percent of Decrease

Answers

1. 53%	2. 75%	3. 17%	4. 13%	5. 33%
6. 11%	7. 60%	8. 95%	9. 55%	10. 41%
11. 4%	12. 29%	13. 50%	14. 95%	15. 21%

5.12 Find the Percent of Change

Answers

1. 156	2. 58	3. 14	4. 5858	5. 83
6. 31	7. 114	8. 37	9. 70	10. 630
11. 984	12. 884	13. 792	14. 653	15. 701

5.13 Find the Retail Prices Given Wholesale, Markups and Sales Tax

Answers

- | | | | | |
|-------------|--------------|-------------|--------------|--------------|
| 1. \$8.87 | 2. \$1040.40 | 3. \$.34 | 4. \$82.62 | 5. \$417.95 |
| 6. \$9.43 | 7. \$46.79 | 8. \$382.95 | 9. \$4.82 | 10. \$160.95 |
| 11. \$85.08 | 12. \$35.41 | 13. \$60.05 | 14. \$196.18 | 15. \$279.00 |

5.14 Find Discount Prices Given Sales

Answers

- | | | | | |
|--------------|--------------|--------------|-------------|-------------|
| 1. \$94.35 | 2. \$98.64 | 3. \$102.92 | 4. \$107.21 | 5. \$90.06 |
| 6. \$1578.98 | 7. \$66.67 | 8. \$58.14 | 9. \$82.21 | 10. \$126 |
| 11. \$101.49 | 12. \$159.96 | 13. \$259.53 | 14. \$60.75 | 15. \$47.40 |

5.15 Solve Statistics Based Problems Involving Percents

Answers

- | | | | | |
|---------|---------|----------|----------|-----------|
| 1. 409% | 2. 313% | 3. 400% | 4. 455% | 5. 180% |
| 6. 200% | 7. 133% | 8. .6% | 9. .3% | 10. 16.7% |
| 11. 40% | 12. 20% | 13. 6.5% | 14. .75% | 15. 3% |

5.16 Solve Percent Problems Involving Scientific Notation

Answers

- | | | |
|---------------------------|----------------------------|----------------------------|
| 1. 2.17×10^8 | 2. 4.55×10^{12} | 3. 1.134×10^{-16} |
| 4. 2.16×10^{-1} | 5. 1.2408×10^{-1} | 6. 2.52×10^{-6} |
| 7. 2.997×10^{11} | 8. .0000177 | 9. .0000112 |
| 10. .0008 | 11. 22.72 | 12. .00013 |
| 13. .0050 | 14. .0000027 | 15. 482,160,000,000 |

5.17 Solve Real World Problems Involving Simple Interest

Answers

- | | | | | |
|-----------------|--------------|--------------|--------------|--------------|
| 1. \$45,790.50 | 2. \$2469.60 | 3. \$240 | 4. \$1,656 | 5. \$3080 |
| 6. \$100.00 | 7. \$189 | 8. \$360 | 9. \$504 | 10. \$228 |
| 11. \$60,264.50 | 12. \$9212 | 13. \$9440 | 14. \$21,600 | 15. \$28,750 |
| 16. \$4,050 | 17. \$14,400 | 18. \$14,400 | 19. \$9,300 | 20. \$34,100 |

5.18 Solve Real World Problems Involving Compound Interest

Answers

- | | | | | |
|--------------|--------------|--------------|------------|------------|
| 1. \$300 | 2. \$960 | 3. \$2500 | 4. \$7500 | 5. \$3000 |
| 6. \$13,800 | 7. \$2400 | 8. \$24,000 | 9. \$3120 | 10. \$5150 |
| 11. \$12,240 | 12. \$35,700 | 13. \$18,540 | 14. \$8112 | 15. \$8755 |

6.1 Identify Angle Pairs

Answers

- | | | | | |
|----------------|----------------|----------------|---------------|-----------------|
| 1. 35° | 2. 57° | 3. 7° | 4. 17° | 5. 170° |
| 6. 100° | 7. 150° | 8. 165° | 9. 68° | 10. 178° |
| 11. False | 12. True | 13. False | 14. True | 15. True |



6.2 Identify Adjacent and Vertical Angles

Answers

- | | | | |
|----------------|---------------------|-------------|---------------|
| 1. Vertical | 2. Adjacent | 3. Adjacent | 4. Vertical |
| 5. Neither | 6. 63° | 7. True | 8. 18° |
| 9. 162° | 10. Vertical angles | 11. True | 12. False |
| 13. True | 14. False | 15. False | 16. True |

6.3 Identify Types of Lines

Answers

1. Parallel
2. Intersecting
3. Perpendicular
4. Intersecting
5. Lines that are equidistant apart and will never intersect.
6. Lines that cross at one point
7. Lines that cross at a 90 degree angle
8. 
9. 
10. Intersecting or Perpendicular lines – it depends on the angle of the intersection
11. Perpendicular
12. Yes
13. Intersecting
14. Perpendicular
15. Parallel

6.4 Measures of Angle Pairs

Answers

- | | | | | |
|----------------|---------------|---------------|----------------|----------------|
| 1. 45° | 2. 7° | 3. 57° | 4. 37° | 5. 140° |
| 6. 105° | 7. 70° | 8. 55° | 9. 170° | 10. 23° |
11. Vertical angles are opposite each other and have the same measure.
12. Adjacent angles are next to each other.
13. Complementary angles have a sum of 90 degrees.
14. Supplementary angles have sum of 180 degrees.
15. Interior angles are formed when parallel lines are intersected by a transversal. They are found “inside” the lines.

6.5 Classifying Triangles

Answers

- | | | |
|----------------------|--------------------------|--------------------------|
| 1. Equiangular | 2. Obtuse | 3. Right triangle |
| 4. Obtuse triangle | 5. Acute triangle | 6. Right triangle |
| 7. Acute triangle | 8. Obtuse triangle | 9. Isosceles triangle |
| 10. scalene triangle | 11. Equilateral triangle | 12. Isosceles triangle |
| 13. Scalene triangle | 14. equilateral triangle | 15. Equilateral triangle |

6.6 Understanding the Angle Measures of Triangles

Answers

- | | | | | | |
|---------------|---------------|---------------|----------------|----------------|----------------|
| 1. 90° | 2. 60° | 3. 40° | 4. 40° | 5. 40° | 6. 120° |
| 7. 20° | 8. 80° | 9. 75° | 10. 80° | 11. 75° | 12. 87° |
- 13 – 15 Answers vary.

6.7 Classifying Quadrilaterals

Answers

- | | | | |
|------------|------------------|----------------|------------------|
| 1. Square | 2. Parallelogram | 3. Rectangle | 4. Quadrilateral |
| 5. Rhombus | 6. True | 7. True | 8. False |
| 9. True | 10. True | 11. True | 12. False |
| 13. False | 14. 360° | 15. 90° | 16. 90° |

6.8 Understanding the Angle Measures of Quadrilaterals

Answers

- | | | | | |
|----------------|----------------|----------------|----------------|-----------------|
| 1. 60° | 2. 110° | 3. 128° | 4. 138° | 5. 100° |
| 6. 70° | 7. 131° | 8. 80° | 9. 122° | 10. 165° |
| 11. 90° | 12. 25° | 13. 80° | 14. 80° | 15. 135° |

6.9 Identifying Polygons

Answers

- | | | |
|------------------------|----------------------|-----------------------|
| 1. True | 2. False | 3. False |
| 4. False | 5. True | 6. True |
| 7. Regular hexagon | 8. Irregular octagon | 9. Regular octagon |
| 10. Irregular pentagon | 11. regular pentagon | 12. Irregular decagon |
| 13. 720° | 14. 1080° | 15. 180° |
| 16. 360° | 17. 1440° | |

6.10 Recognize and Understand Congruent Polygons

Answers

- | | | | | |
|-------------|-------------|-----------|----------|------------------------|
| 1. False | 2. Ture | 3. True | 4. True | 5. False |
| 6. True | 7. True | 8. False | 9. True | 10. False |
| 11. Angle G | 12. Angle A | 13. False | 14. True | 15. Irregular Pentagon |

6.11 Identify and Apply Theorems to Triangle Congruence

Answers

- | | | | | |
|------------|-------------|------------|------------|---------|
| 1. Angle D | 2. Angle E | 3. Angle F | 4. DE | 5. EF |
| 6. DF | 7. DF | 8. Angle D | 9. Angle E | 10. Yes |
| 11. Yes | 12. B and E | 13. SSS | 14. SAS | 15. AAS |

6.12 Recognizing Reflections

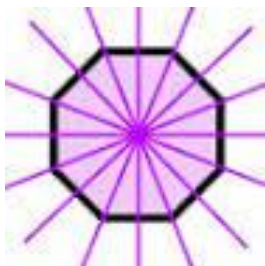
Answers

- | | | |
|----------------------------------|---------------------------------|--------------------------------|
| 1. Reflection | 2. Coordinate Plane | 3. x axis |
| 4. y axis | 5. (1, -3)(2, -5)(3, -2) | 6. (2, -1)(5, -1)(2, -4) |
| 7. (-1,-1)(-1, -3)(-4,-1) | 8. (1, -2)(6, -1)(6, -3)(2, -3) | 9. (1,-2)(6, -1)(6, -3)(2, -3) |
| 10. (-1,-3)(-3,-1)(-5,-1)(-4,-6) | 11. (-1,3)(-2,5)(-3,2) | 12. (1,1)(1,3)(4,1) |
| 13. (-2,1)(-5,1)(-2,4) | 14. (-1,2)(-1,5)(-5,2)(-5,5) | 15. (1,3)(3,1)(5,1)(4,6) |

6.13 Identify Lines of Symmetry

Answers

- | | | |
|--------|--------|--------|
| 1. Yes | 2. Yes | 3. One |
|--------|--------|--------|



- | | | |
|----------|----------|-----------|
| 4. Eight | 5. Zero | 6. One |
| 7. One | 8. One | 9. one |
| 10. Zero | 11. Two | 12. False |
| 13. True | 14. True | 15. False |

6.14 Recognizing Translation Transformations

Answers

- | | | |
|-------------------------|-----------------------------|---------------------------|
| 1. Translation or slide | 2. $(3, -1)(7, -5)(-2, -2)$ | 3. $(-1, 4)(3, 0)(-6, 3)$ |
| 4. To the left | 5. 4 units | 6. Up |
| 7. 5 units | 8. $(-3, 10)(1, 8)(-3, 7)$ | 9. $(6, 3)(10, 1)(6, 0)$ |
| 10. Right | 11. 9 units | 12. Down |
| 13. 7 units | 14. True | 15. False |

6.15 Recognizing Rotation Transformations

Answers

- Translation is the slide of a figure across the coordinate plane.
- Rotation is the turning of a figure on the coordinate plane.
- Tessellation is a figure that creates a pattern with on gaps.
- False
- False
- True
- True
- x coordinate
- y coordinate
- True
- $(4, 4)(2, 4)(1, 1)$
- $(-4, -4)(-2, -4)(-1, -1)$
- $(4, -4)(4, -2)(1, -1)$
- $(3, -1)(1, -5)(3, -5)$
- $(-3, 1)(-1, 5)(-3, 5)$
- $(-1, -3)(-5, -1)(-5, -3)$

6.16 Identify Tessellations

Answers

- | | | | | |
|--------|---------|---------|--------|---------|
| 1. No | 2. Yes | 3. Yes | 4. Yes | 5. Yes |
| 6. Yes | 7. No | 8. No | 9. Yes | 10. No |
| 11. No | 12. Yes | 13. yes | 14. No | 15. Yes |

6.17 Recognizing Similarity

Answers

- | | | | | |
|--------|--------|--------|---------|--------|
| 1. Yes | 2. Yes | 3. Yes | 4. No | 5. Yes |
| 6. No | 7. yes | 8. No | 9. 18 | 10. 20 |
| 11. 5 | 12. 3 | 13. 30 | 14. 7.5 | 15. 4 |

6.18 Recognizing Dilations

Answers

- | | | | |
|--------------------|--------------------|--------------------|-------------------|
| 1. 8, 10, 18 | 2. 12, 15, 27 | 3. 16, 20, 36 | 4. 16, 20, 28 |
| 5. 32, 40, 56 | 6. 4, 8, 12 | 7. 2, 3, 4, 5 | 8. 3, 4, 5, 6 |
| 9. 8, 12, 16, 20 | 10. 12, 18, 24, 30 | 11. 16, 24, 32, 40 | 12. 3, 4, 6, 8 |
| 13. 18, 24, 36, 48 | 14. 27, 36, 54, 72 | 15. 2, 3, 4, 6 | 16. 4.5, 6, 9, 12 |

7.1 Evaluate Radical Expressions

Answers

1. 4	2. 5	3. 9	4. 11	5. 6	6. 13
7. 5	8. 4	9. 3	10. 12	11. 3 and 4	12. 3 and 4
13. 4 and 5	14. 4 and 5	15. 5 and 6	16. 9 and 10	17. 9 and 10	

7.2 Evaluate Radical Expressions and Fractional Powers

Answers

1. 8	2. 4	3. 12	4. 9	5. 3
6. 5	7. 6	8. 10	9. 2	10. 4
11. 5	12. 6	13. 3	14. 11	15. 13

7.3 Solve Equations Involving Radicals

Answers

1. 11	2. 12	3. 8	4. 13	5. 4
6. 4	7. 3	8. 12	9. 5	10. 5
11. 4	12. 5	13. 5	14. 6	15. 7

7.4 Classify Real Numbers

Answers

1. Real, integer, rational	2. Real, integer, rational
3. Real, whole, integer, rational	4. Real, rational
5. Real, rational	6. Real, integer, rational
7. real, integer, rational	8. Real, integer, rational
9. Real, integer, whole, rational	10. real, irrational
11. True	12. False
13. True	14. true
15. False	16. False
17. False	18. True
19. True	20. True

7.5 Approximate Solutions to Equations Involving Irrational Numbers

Answers

- | | | | | |
|----------|----------|-----------|----------|-----------|
| 1. 9.42 | 2. 25.12 | 3. 28.26 | 4. 37.68 | 5. 6.28 |
| 6. 18.84 | 7. 21.98 | 8. 31.68 | 9. 34.96 | 10. 29.54 |
| 11. 2.65 | 12. 6.59 | 13. -2.16 | 14. 5.24 | 15. 2.65 |

7.6 Derive and Use the Pythagorean Theorem

Answers

- | | | | | |
|-------|--------|-----------|----------|----------|
| 1. 5 | 2. 10 | 3. 15 | 4. 45 | 5. 25 |
| 6. 30 | 7. 12 | 8. 21 | 9. 40 | 10. 44 |
| 11. 2 | 12. 48 | 13. False | 14. True | 15. True |

7.7 Derive and Use the Converse of the Pythagorean Theorem

Answers

- | | | | | |
|----------|----------|---------|---------|---------|
| 1. False | 2. True | 3. True | 4. True | 5. True |
| 6. False | 7. False | 8. True | 9. No | 10. Yes |
| 11. No | 12. Yes | 13. No | 14. Yes | 15. Yes |

7.8 Use the Pythagorean Theorem

Answers

- | | | | | |
|----------|---------|----------|--------|---------|
| 1. Yes | 2. No | 3. Yes | 4. Yes | 5. No |
| 6. Yes | 7. yes | 8. No | 9. Yes | 10. Yes |
| 11. 11.7 | 12. 8.6 | 13. 11.4 | 14. 10 | 15. 15 |

7.9 The Pythagorean Theorem, Perimeter and Area

Answers

1. 17.2	2. 8	3. 9	4. 20	5. 24
6. 50	7. 2.5	8. 7.5	9. 11	10. 60
11. 45	12. 17	13. yes	14. 72 inches	15. 360 in^2

7.10 Identify and Use the Distance Formula

Answers

1. 5	2. 13	3. 11.3	4. 5	5. 5.1
6. 6	7. 6.4	8. 8	9. 5.4	10. 3.2
11. 12	12. 5	13. 4	14. 6	15. 8.5

7.11 45-45-90 Triangles

Answers

1. $5\sqrt{2}$	2. $4\sqrt{2}$	3. $6\sqrt{2}$	4. $3\sqrt{2}$	5. $7\sqrt{2}$
6. 7.07	7. 5.66	8. 8.49	9. 4.24	10. 9.90
11. 11.31	12. 14.14	13. 18.38	14. 29.70	15. 24.04

7.12 30-60-90 Triangles

Answers

1. $3\sqrt{3}$	2. $4\sqrt{3}$	3. $2\sqrt{3}$	4. $4\sqrt{3}$	5. $10\sqrt{3}$
6. 5.20	7. 6.93	8. 3.46	9. 13.86	10. 17.32
11. 30-60-90	12. 45-45-90	13. 2 ft.	14. $9\sqrt{2}$	15. $4\sqrt{3}$

7.13 Understanding Sines

Answers

- | | | | | |
|-----------|-----------|----------|----------|-----------|
| 1. .8 | 2. .6 | 3. No | 4. .28 | 5. .96 |
| 6. .33 | 7. .94 | 8. 14.14 | 9. True | 10. True |
| 11. False | 12. False | 13. True | 14. True | 15. False |

7.14 Understanding Cosines

Answers

- | | | |
|---------|-------------------------|--|
| 1. .6 | 2. .8 | 3. Adjacent/hypotenuse compared to the angle |
| 4. .96 | 5. .28 | 6. .94 |
| 7. .33 | 8. 14.14 | 9. yes |
| 10. Yes | 11. Adjacent/hypotenuse | 12. .25 |
| 13. .20 | 14. .09 | 15. .86 |

7.15 Understanding Tangents

Answers

- | | | | | |
|---------|---------|----------|---------|---------|
| 1. 1.33 | 2. .75 | 3. False | 4. .29 | 5. 3.43 |
| 6. .35 | 7. 2.83 | 8. 14.14 | 9. .8 | 10. .7 |
| 11. .86 | 12. 4.5 | 13. .2 | 14. .33 | 15. .47 |

7.16 Determine and Use the Sine Ratio

Answers

- | | | | | |
|----------|----------|----------|----------|-----------|
| 1. .82 | 2. .42 | 3. .19 | 4. .87 | 5. .97 |
| 6. .21 | 7. .48 | 8. .26 | 9. .42 | 10. 7.25 |
| 11. 1.41 | 12. 4.23 | 13. 7.88 | 14. 3.54 | 15. 11.57 |

7.17 Determine and Use the Cosine Ratio

Answers

1. .84	2. .87	3. .29	4. .03
5. .64	6. .39	7. .74	8. .95
9. .99	10. 3.5	11. 8.49	12. 6.55
13. 10.6	14. 5.03	15. 4.33	16. 1.91

7.18 Determine and Use the Tangent Ratio

Answers

1. .12	2. .87	3. 2.14	4. .40	5. .32
6. .70	7. 1.19	8. 1.38	9. 2.25	10. 2.75
11. 6	12. 13.74	13. 3.33	14. .96	15. 1.27

8.1 Find the Dimensions and Area of Triangles

Answers

- | | | | | |
|----------------------|-------------------------|-------------------------|--------------------------|---------------------|
| 1. 25 in^2 | 2. 19.25 in^2 | 3. 24 ft^2 | 4. 33.75 ft^2 | 5. 54 m^2 |
| 6. 90 ft^2 | 7. 21.88 ft^2 | 8. 64.81 ft^2 | 9. 173.81 ft^2 | 10. 2 in. |
| 11. 6 ft. | 12. 12 in. | 13. 15 ft. | 14. 17 ft. | 15. 27 ft. |

8.2 Find the Dimensions and Area of Quadrilaterals

Answers

- | | | | | |
|-----------------------|-----------------------|------------------------|---------------------------|---------------------------|
| 1. 75 in^2 | 2. 108 ft^2 | 3. 154 ft^2 | 4. 399 ft^2 | 5. 99 ft^2 |
| 6. 143 in^2 | 7. 418 ft^2 | 8. 837 m^2 | 9. 26 in^2 | 10. 35 in^2 |
| 11. 99 ft^2 | 12. 64 in^2 | 13. 225 ft^2 | 14. 506.25 mm^2 | 15. 333.06 cm^2 |

8.3 Circumference of Circles

Answers

- | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|
| 1. 31.4 in. | 2. 15.7 in | 3. 21.98 ft | 4. 37.68 mm | 5. 43.96 cm | 6. 25.12 in |
| 7. 37.68 m | 8. 50.24 ft | 9. 69.08 in | 10. 94.2 cm | 11. 17 in. | 12. 14 ft. |
| 13. 18 in. | 14. 21 m | 15. 15.5 m | 16. 12 ft. | 17. 25 m | 18. 32 cm |

8.4 Area of Circles

Answers

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|
| 1. 50.24 in^2 | 2. 28.26 ft^2 | 3. 19.63 in^2 | 4. 78.5 cm^2 | 5. 38.47 in^2 |
| 6. 254.34 mm^2 | 7. 379.94 cm^2 | 8. 314 in^2 | 9. 153.86 ft^2 | 10. 200.96 in^2 |
| 11. 3.53 in^2 | 12. 7.73 mm^2 | 13. 13.08 cm^2 | 14. 13.51 in^2 | 15. 2.44 in^2 |

8.5 Classifying Solid Figures

Answers

- | | | | |
|-------------|-------------------------------|----------------------|--------------|
| 1. Cylinder | 2. 2 | 3. 0 | 4. 0 |
| 5. Pyramid | 6. 5 | 7. 8 | 8. 5 |
| 9. Cone | 10. 1 face, 0 edges, 1 vertex | 11. Triangular Prism | 12. 5 |
| 13. 9 | 14. 6 | 15. Sphere | 16. Cylinder |
- 17 -18 answers vary

8.6 Surface Area of Prisms

Answers

- | | | |
|------------------------|-----------------------|-----------------------|
| 1. Rectangular Prism | 2. 538 cm^2 | 3. Rectangle |
| 4. 4 cm | 5. 165 cm^2 | 6. Rectangular Prism |
| 7. 564.9 m^2 | 8. Rectangle | 9. 6 m |
| 10. 139.65 | 11. Triangular prism | 12. Triangle |
| 13. 2 bases | 14. 5 faces | 15. 78 in^2 |

8.7 Surface Area of Cylinders

Answers

- | | | |
|--------------------------|---------------------------|------------------------|
| 1. Cylinder | 2. Circle | 3. 2 |
| 4. 428.61 ft^2 | 5. Radius | 6. Cylinder |
| 7. Radius | 8. 560.49 yds^2 | 9. 1256 ft^2 |
| 10. Surface Area | 11. False | 12. False |
| 13. True | 14. True | 15. True |

8.8 Surface Area of Pyramids

Answers

- | | | |
|---------------------------|--------------------|------------------------|
| 1. Square pyramid | 2. 20 inches | 3. 2000 in^2 |
| 4. Triangular pyramid | 5. Triangle | 6. 4 |
| 7. 109.2 ft^2 | 8. Square Pyramid | 9. 8 inches |
| 10. 112 in^2 | 11. Square pyramid | 12. 16 cm |
| 13. 699.52 cm^2 | 14. False | 15. False |

8.9 Surface Area of Cones

Answers

- | | | | | |
|-----------|---------------------------|---------------------------|--------------------------|--------------------------|
| 1. Cone | 2. 8 cm | 3. 12 cm | 4. 200.96 cm^2 | 5. Cone |
| 6. circle | 7. 34 m | 8. 2332.71 m^2 | 9. Cone | 10. Circle |
| 11. 6 in | 12. 113.04 in^2 | 13. 113.04 in^2 | 14. 188.4 m^2 | 15. 84.78 cm^2 |

8.10 Volume of Prisms

Answers

- | | | |
|-----------------------|----------------------------|-----------------------|
| 1. Rectangular Prism | 2. 7 units | 3. 3 units |
| 4. 4 units | 5. 84 units^3 | 6. triangular prism |
| 7. Triangle | 8. rectangle | 9. 816 ft^3 |
| 10. rectangular prism | 11. 1679.29 cm^3 | 12. 12 ft. |
| 13. 20 times | 14. True | 15. False |

8.11 Volume of Cylinders

Answers

- | | | |
|----------------------------|--------------------------|------------------------------|
| 1. Cylinder | 2. 7 cm | 3. 3.5 cm |
| 4. 500.05 cm^3 | 5. 251.2 ft^3 | 6. 904.32 cm^3 |
| 7. 317.93 ft^3 | 8. 269.26 m^3 | 9. 1061.32 ft^3 |
| 10. 4559.28 m^3 | 11. 21.20 ft^3 | 12. 1846.32 in^3 |
| 13. 2210.56 cm^3 | 14. 706.5 m^3 | 15. $13,310.46 \text{ ft}^3$ |

8.12 Volume of Pyramids

Answers

- | | | |
|---------------------------------------|------------------------|--------------------------|
| 1. $V = 1/3Bh$ | 2. Area of base | 3. Triangular pyramid |
| 4. Triangle | 5. 51.6 ft^3 | 6. Rectangular pyramid |
| 7. Base is a rectangle not a triangle | 8. 300 cm^3 | 9. Rectangle |
| 10. 14.58 yards | 11. 448 cm^3 | 12. 32 in^3 |
| 13. 93.33 in^3 | 14. 256 m^3 | 15. 911.25 m^3 |

8.13 Volume of Cones

Answers

- | | | | | |
|--------------------------|--------------|---------------------------|--------------------------|---------------------------|
| 1. $V = 1/3 Bh$ | 2. True | 3. False | 4. 6 cm | 5. 21 cm |
| 6. 197.82 cm^3 | 7. 10 inches | 8. 7 inches | 9. 183.17 in^3 | 10. 6 cm |
| 11. 3 cm | 12. 12 cm | 13. 113.04 cm^3 | 14. 84 m | 15. 126.60 in^3 |

8.14 Surface Area of Spheres

Answers

- | | | |
|-------------|---------------|---------------|
| 1. 50.24 in | 2. 25.12 in | 3. 43.96 ft |
| 4. 84.15 in | 5. 150.72 cm | 6. 20.10 ft |
| 7. 113.04 m | 8. 56.52 m | 9. 113.04 in |
| 10. 62.8 cm | 11. 75.36 m | 12. 81.64 ft |
| 13. 94.2 m | 14. 138.16 cm | 15. 5 bottles |

8.15 Volume of Spheres

Answers

- | | | |
|-----------------------------|---------------------------|---------------------------|
| 1. 113.04 m^3 | 2. 65.42 m^3 | 3. 523.33 in^3 |
| 4. 904.32 in^3 | 5. 1436.03 ft^3 | 6. 381.51 cm^3 |
| 7. 696.56 m^3 | 8. 9198.11 mm^3 | 9. 2143.57 in^3 |
| 10. 4186.67 ft^3 | 11. 113.04 m^3 | 12. 9198.11 m^3 |
| 13. 44579.63 ft^3 | 14. 904.32 ft^3 | 15. 113.04 in^3 |

9.1 Recognizing Functions

Answers

- | | | |
|--------------------|--------------------|--------------------|
| 1. Not a function | 2. Not a function | 3. Function |
| 4. Function | 5. Not a function | 6. function |
| 7. Function | 8. Not a function | 9. Not a function |
| 10. function | 11. Function | 12. Not a function |
| 13. Not a function | 14. not a function | 15. Function |

9.2 Evaluating Function Rules

Answers

- | | | | |
|-----------------|-------------------------|------------------------|-------------------------------------|
| 1. 11 | 2. 17 | 3. 20 | 4. 29 |
| 5. 35 | 6. -12 | 7. -16 | 8. 0 |
| 9. 4 | 10. 8 | 11. -12 | 12. -15 |
| 13. -21 | 14. -27 | 15. -30 | 16. Domain = dough, range = cookies |
| 17. 1, 5, 9, 13 | 18. -10, -8, -6, -4, -2 | 19. 14, 17, 20, 23, 26 | 20. -8, -7, -6, -5, -4 |

9.3 Writing Function Rules

Answers

- | | | | | |
|--------------|----------------|--------------|-----------------|--------------|
| 1. $y = 3x$ | 2. $y = x - 4$ | 3. $y = 2x$ | 4. $y = 2x - 2$ | 5. $y = x/2$ |
| 6. $y = x/3$ | 7. $y = x + 1$ | 8. $y = -2x$ | 9. $s = 3.45c$ | 10. \$10.35 |
| 11. \$20.70 | 12. \$31.05 | 13. \$6.90 | 14. \$27.60 | 15. \$41.40 |

9.4 Finding Solutions for Equations in Two Variables

Answers

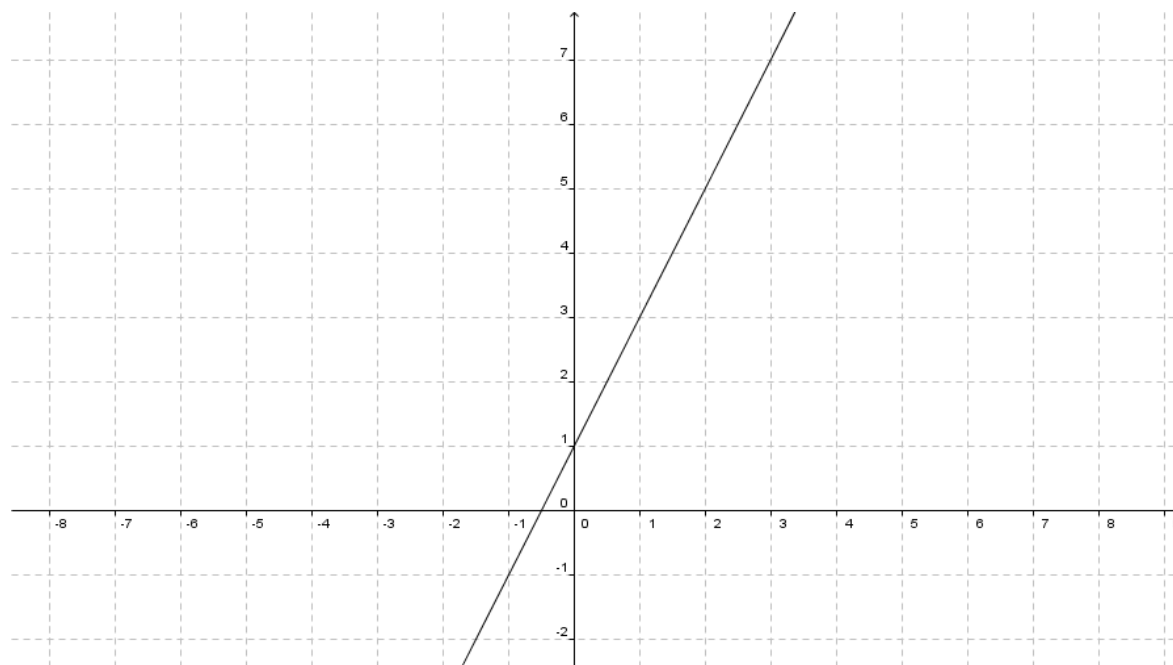
1 – 8 Answers Vary

- | | | | |
|-------------------|-------------------|--------------------|------------------|
| 9. $-3 = 2x - y$ | 10. $4x + y = 6$ | 11. $2x = Y = -4$ | 12. $5x + y = 4$ |
| 13. $3x = Y = -2$ | 14. $4x = Y = -6$ | 15. $-6x + y = -1$ | |

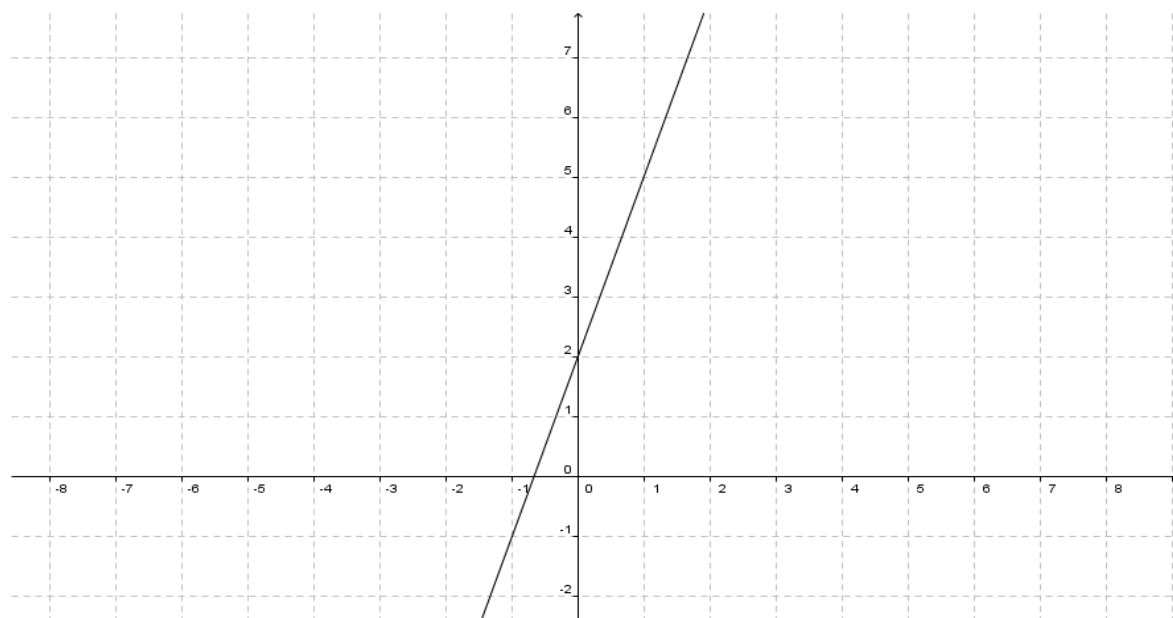
9.5 Using Tables to Graph Functions

Answers

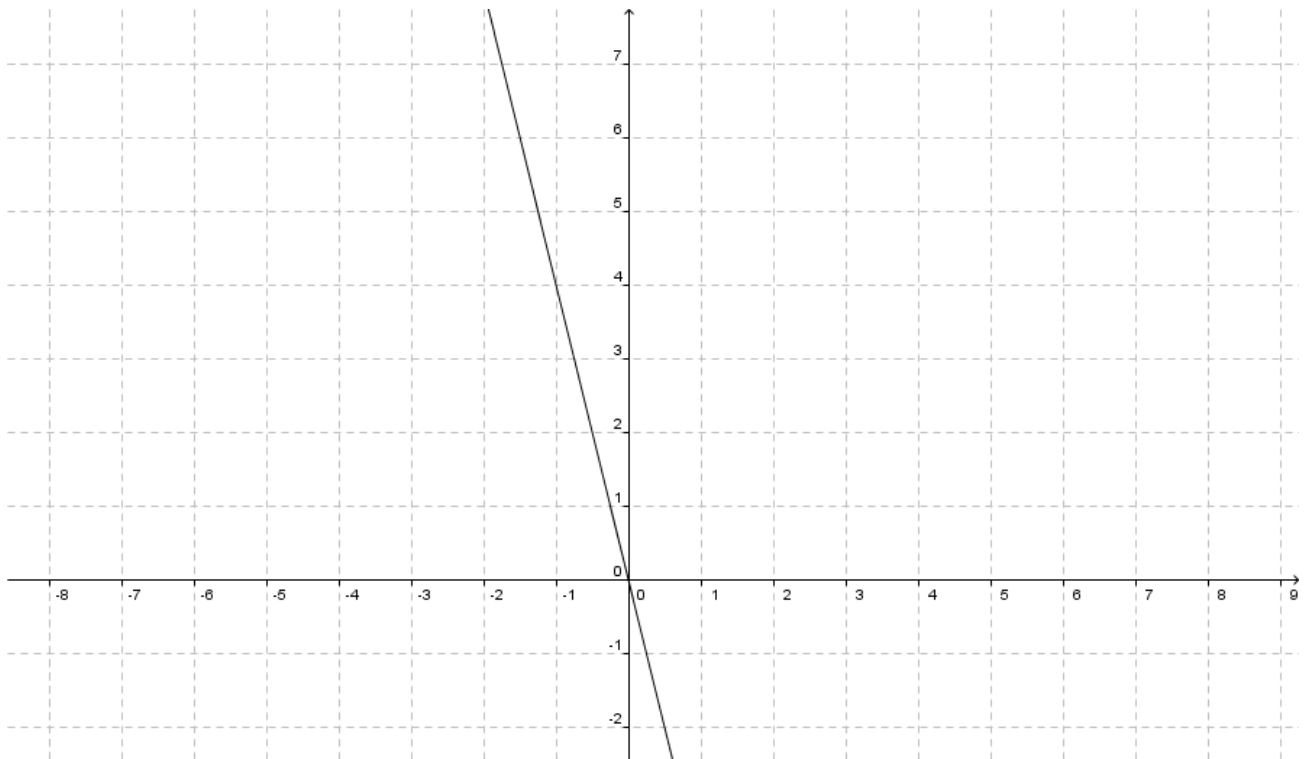
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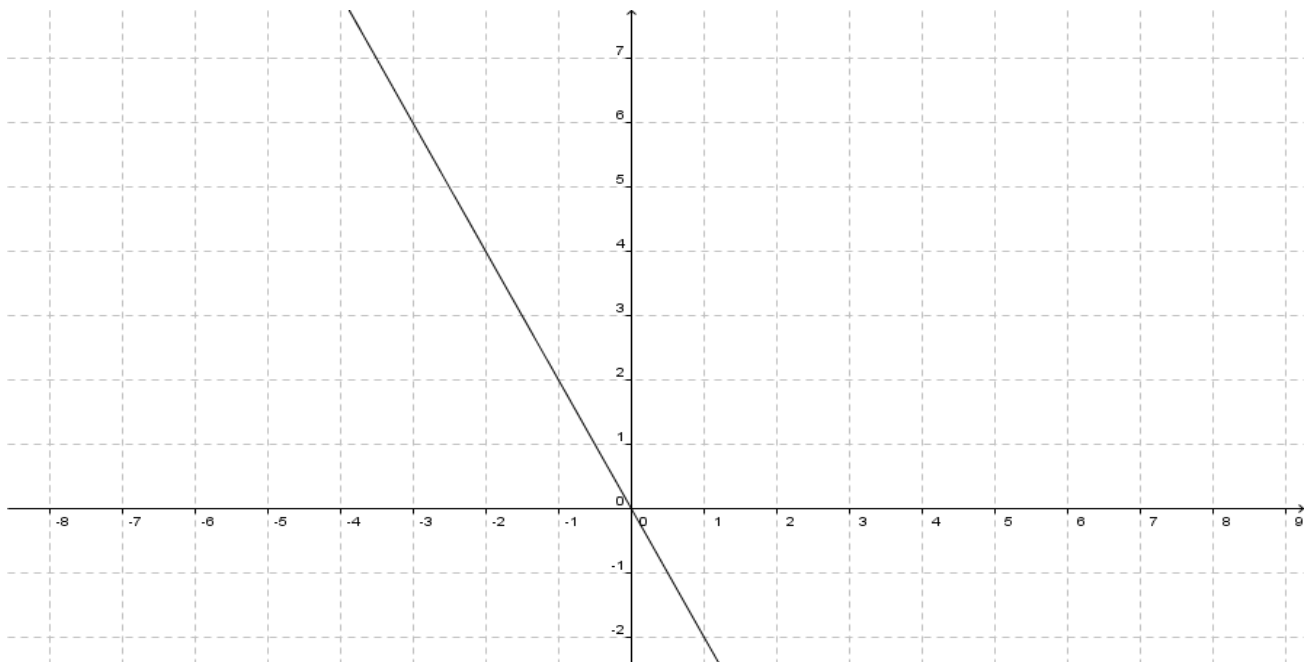
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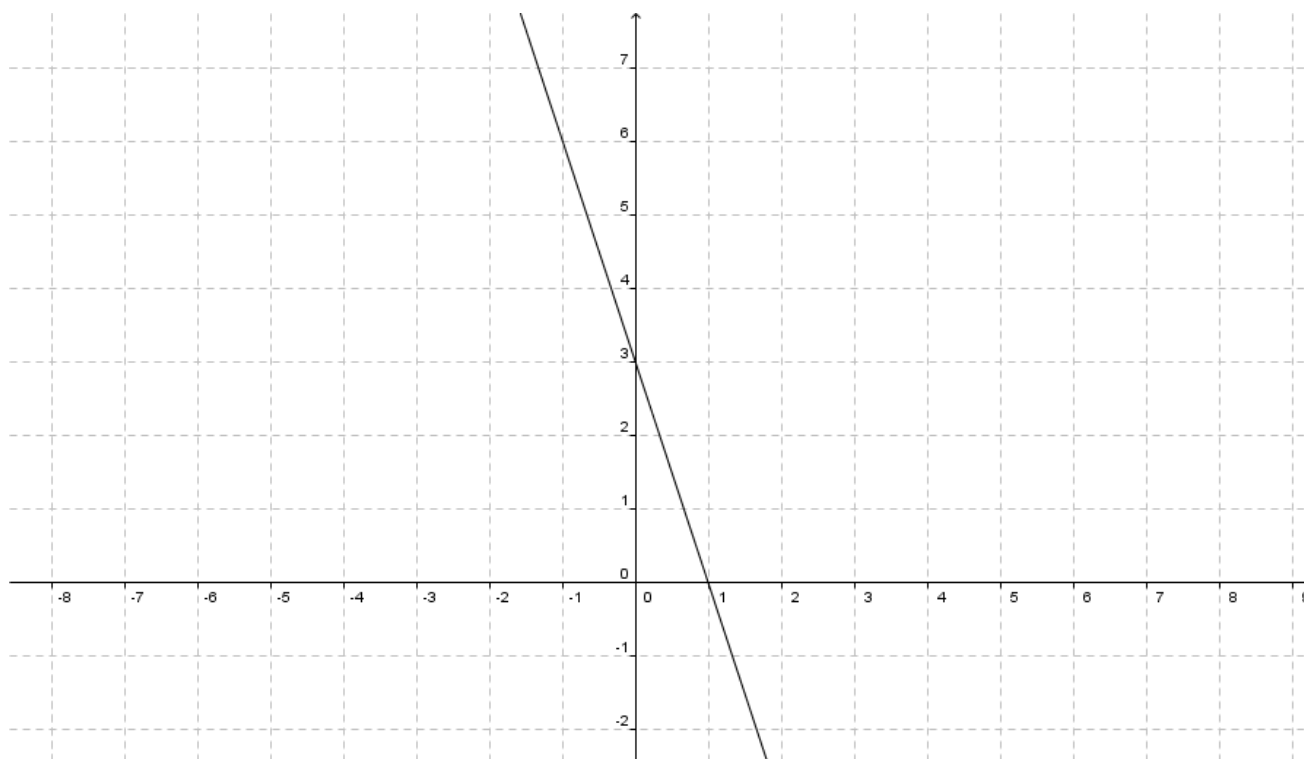
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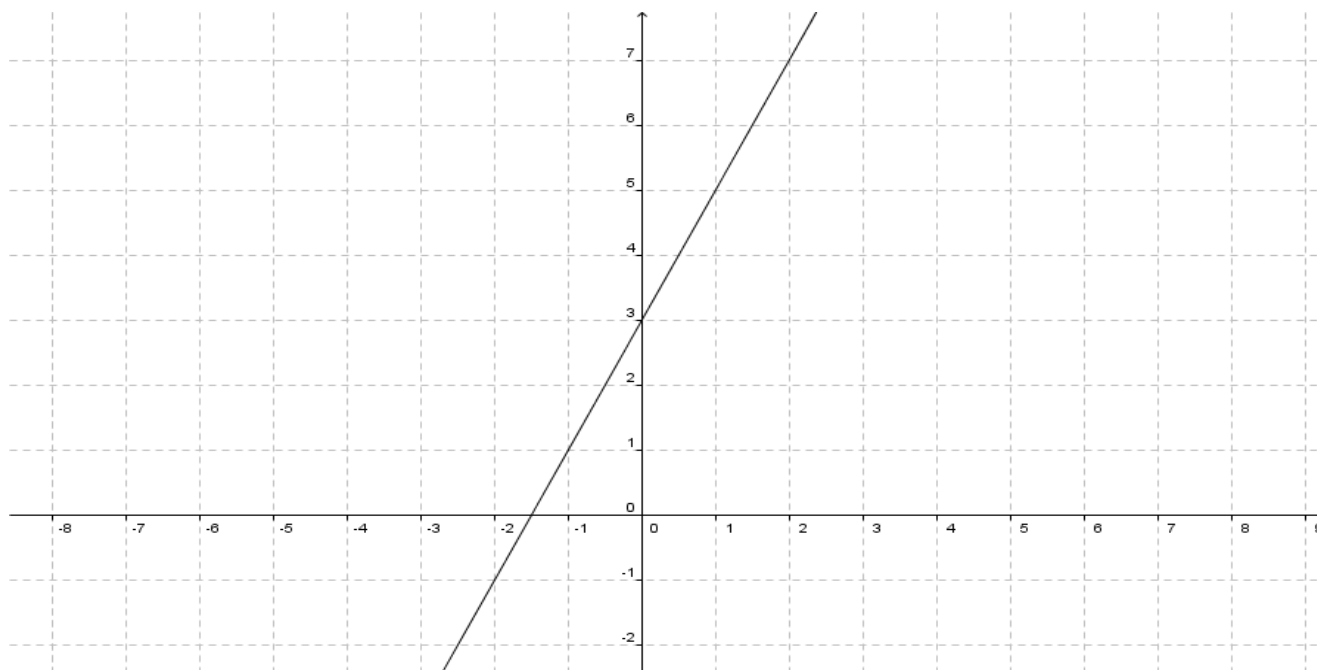
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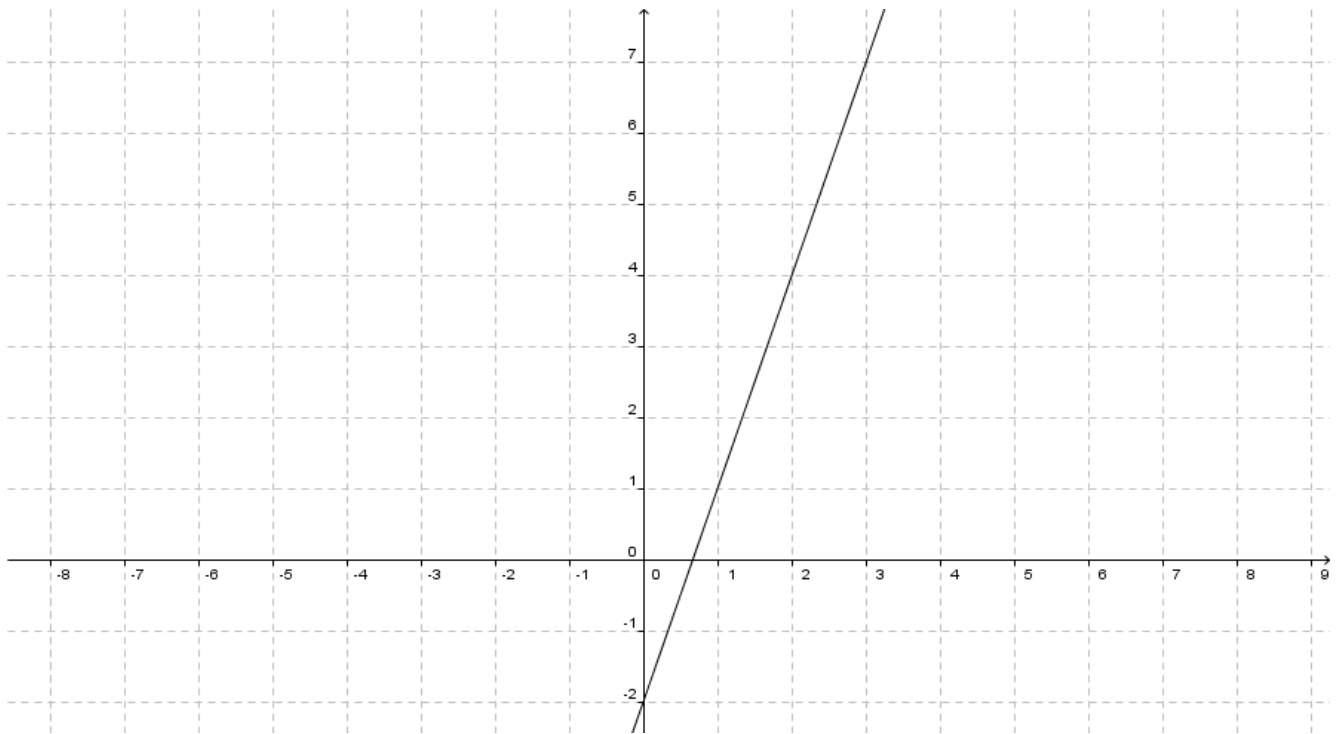
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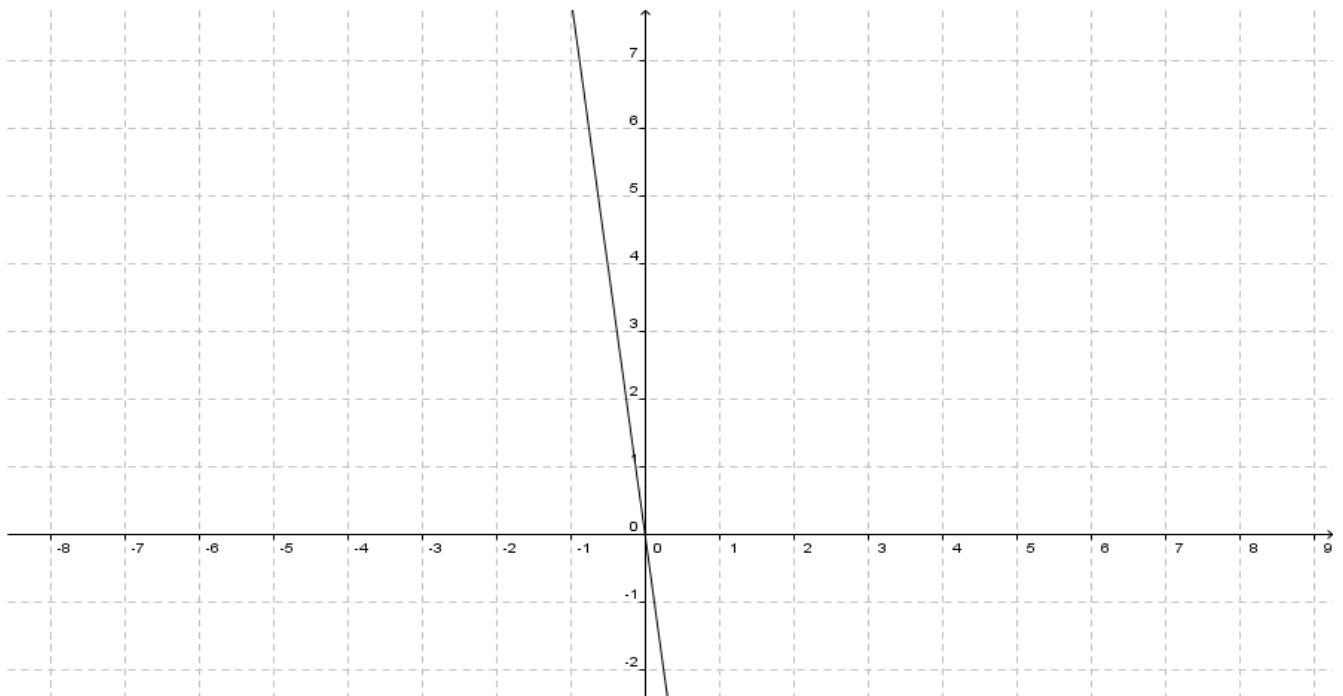
6.



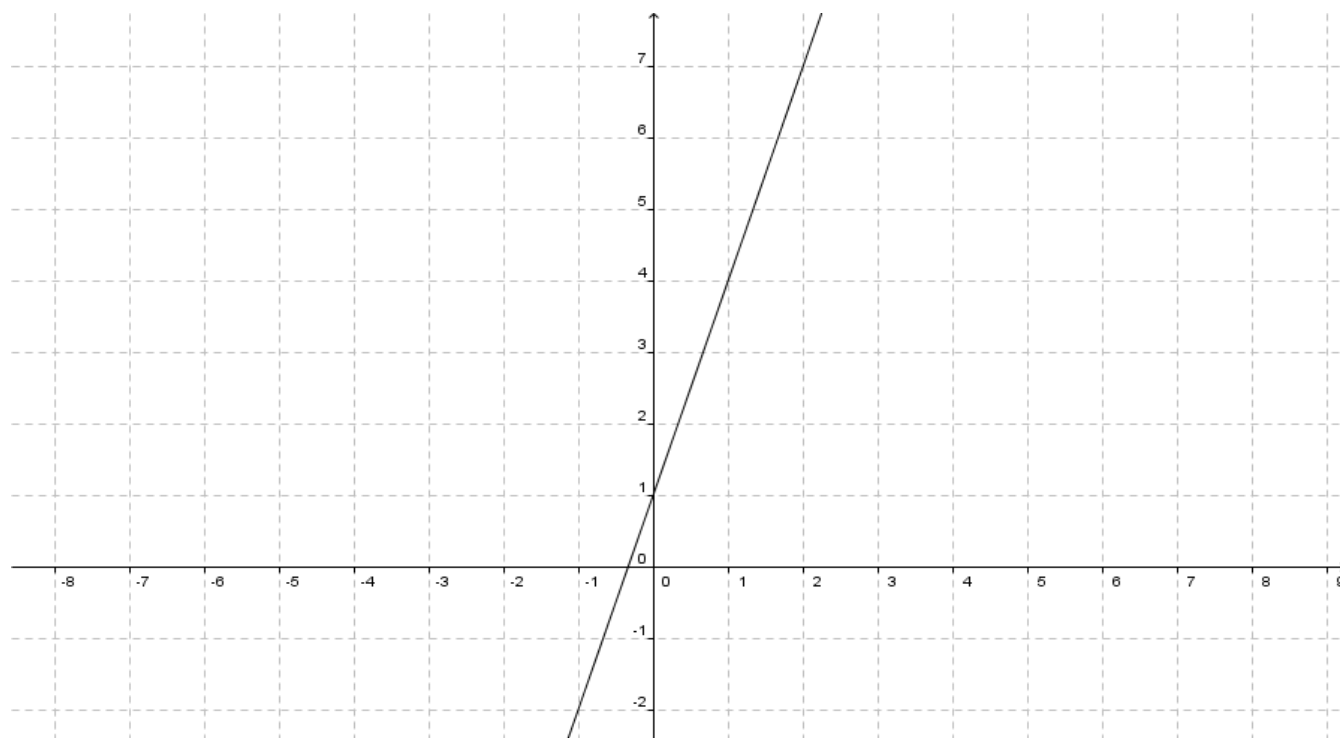
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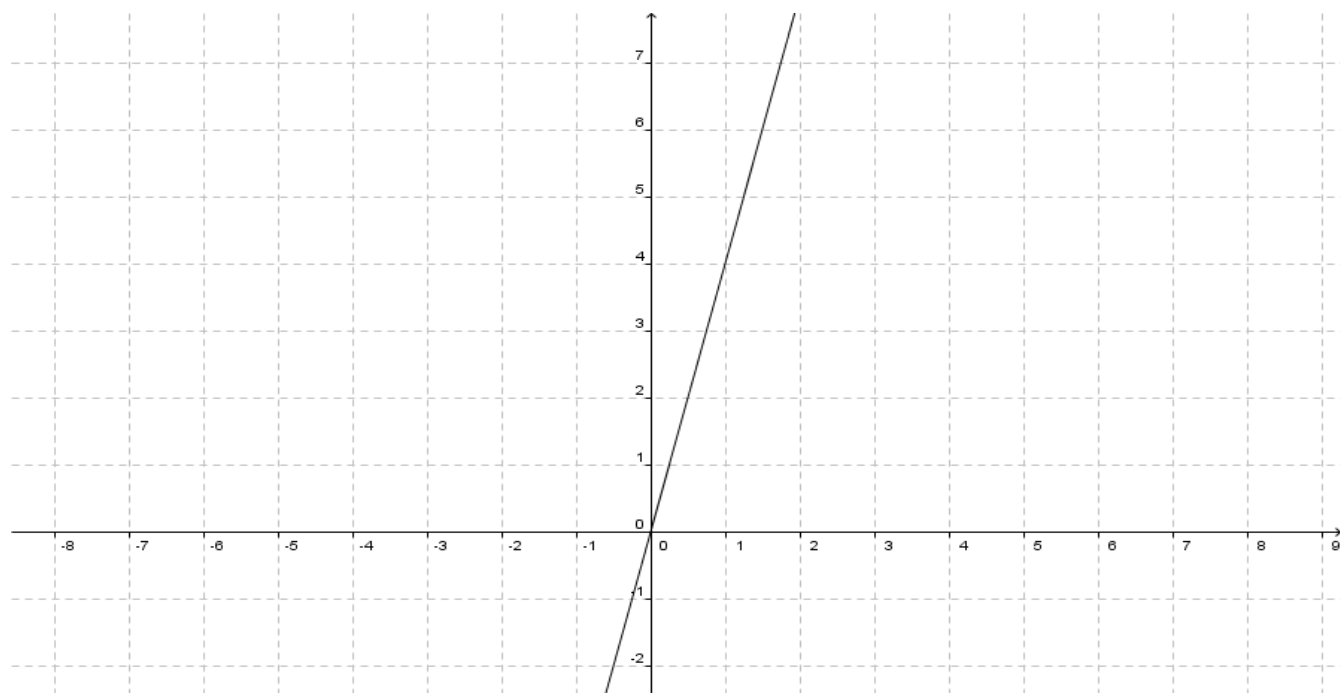
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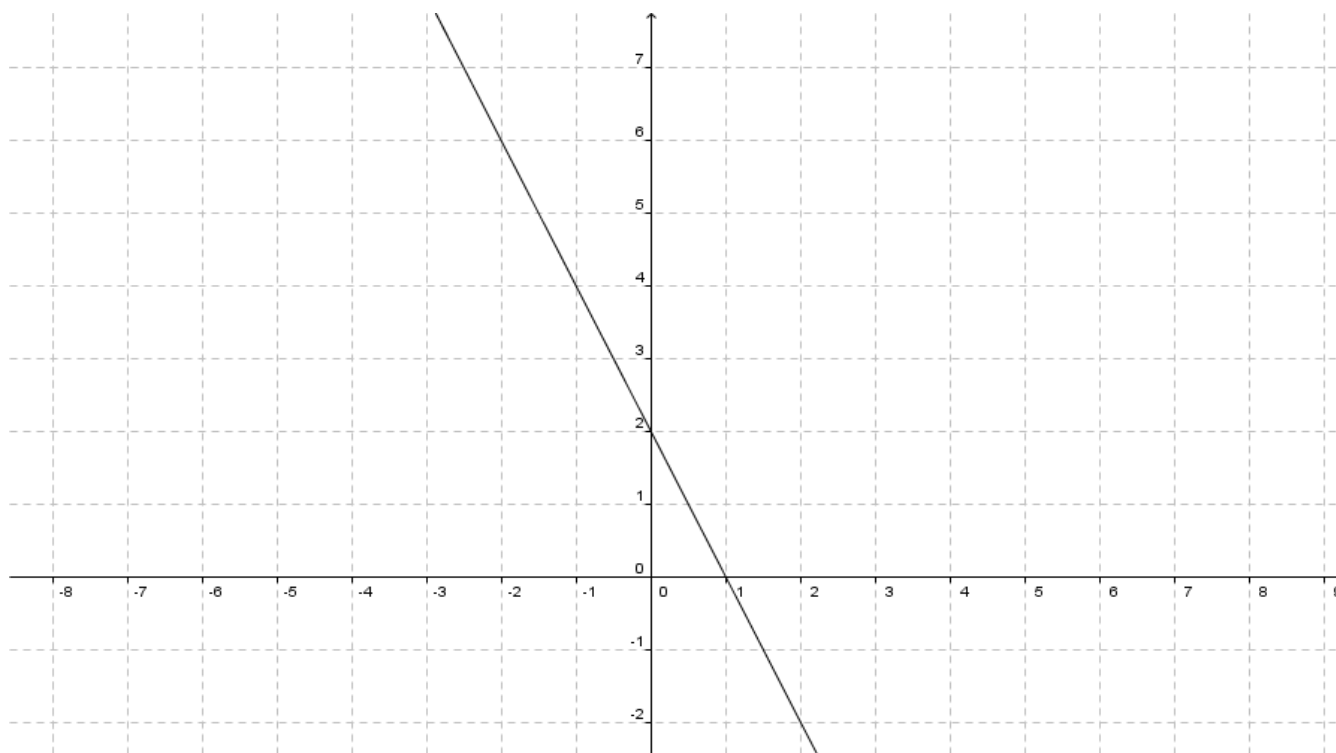
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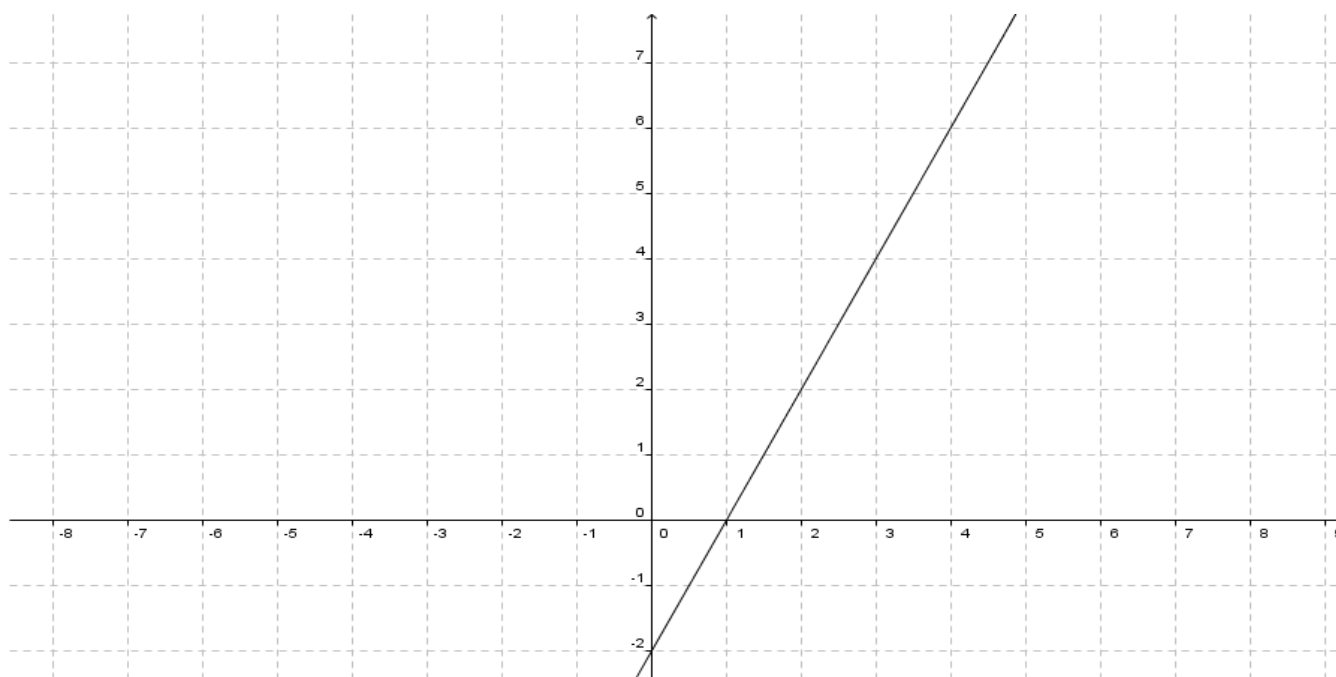
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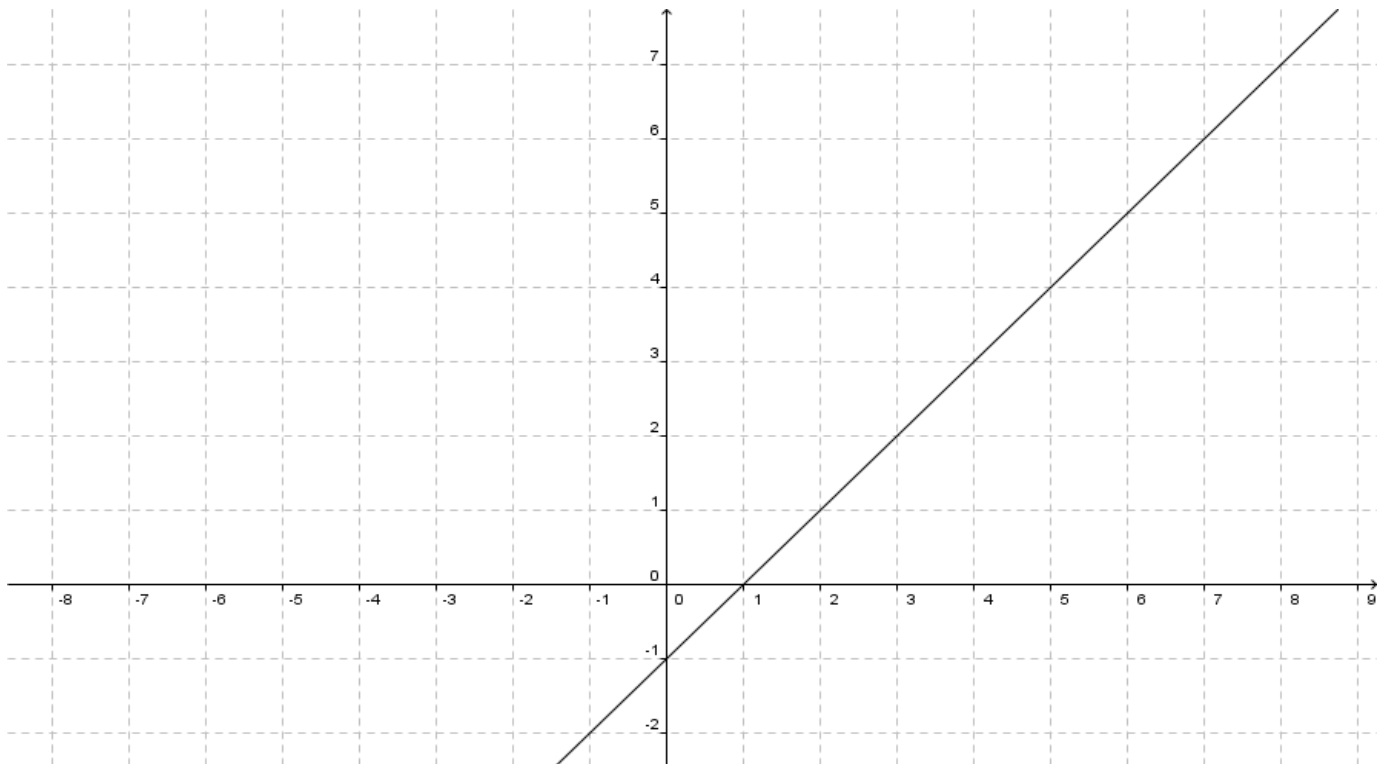
11.



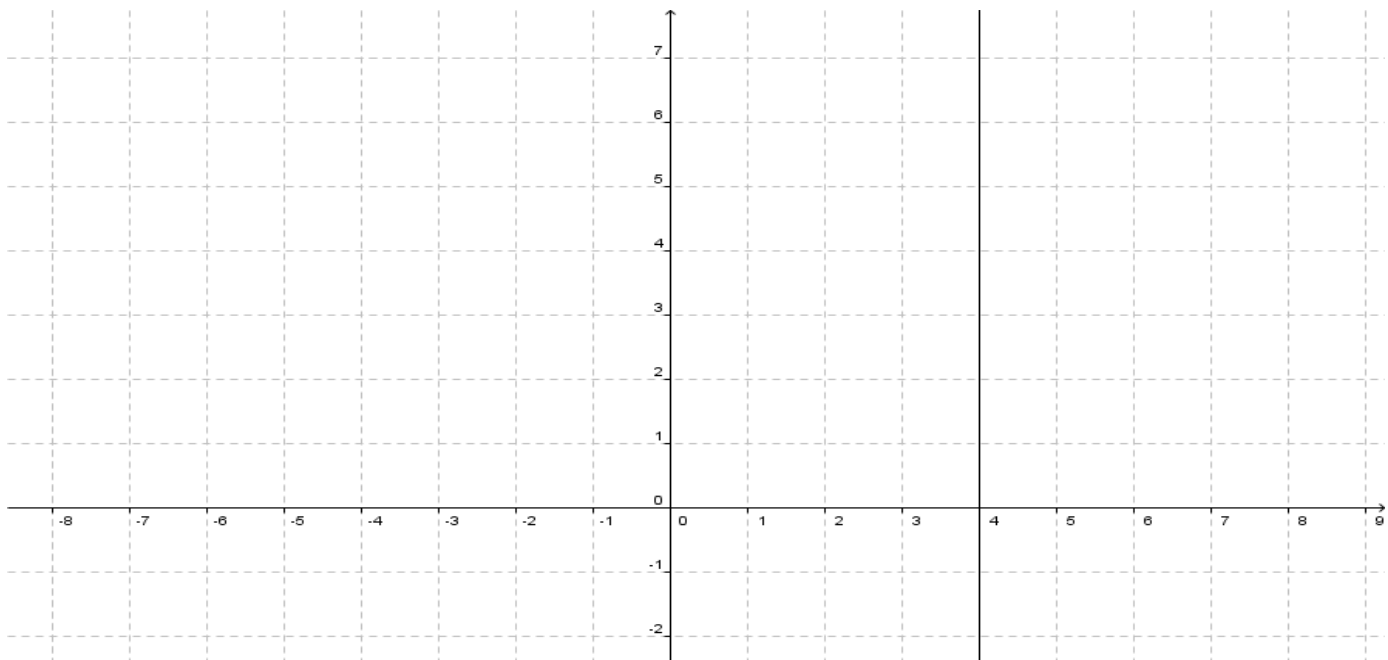
12.



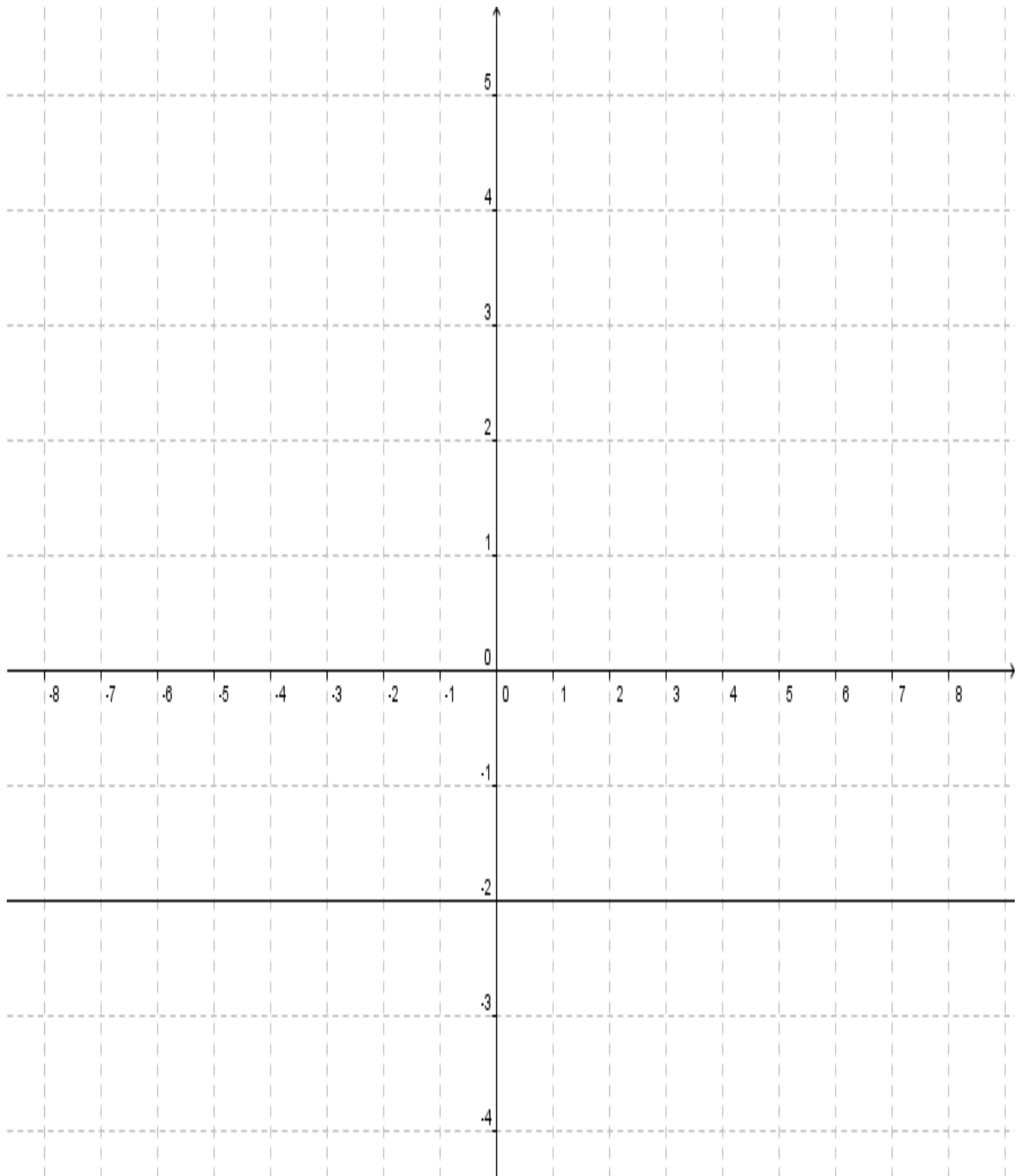
13.



14.



15.



9.6 Using Intercepts

Answers

- | | | | |
|------------------------|----------------------------------|-------------------------|-------------------------|
| 1. (4, 0) (0, 3) | 2. (2, 0) (0, 6) | 3. (5, 0) (0, 4) | 4. (2, 0) (0, 4) |
| 5. (5, 0) (0, 3) | 6. (3, 0) (0, -2) | 7. (1, 0) (0, -3) | 8. (-2, 0) (0, -2) |
| 9. (3, 0) (0, 7) | 10. (9, 0) (0, 2) | 11. $x = 2$, $y = 3$ | 12. $x = 7$, $y = 5$ |
| 13. $x = -4$, $y = 4$ | 14. $x = 1\frac{1}{2}$, $y = 3$ | 15. $x = -1$, $y = -1$ | 16. $x = -3$, $y = -3$ |

9.7 Finding the Slope of a Line

Answers

- | | | | | |
|----------|------------|------------|----------|-------------------|
| 1. False | 2. True | 3. False | 4. True | 5. True |
| 6. True | 7. False | 8. True | 9. False | 10. True |
| 11. 1 | 12. 1 | 13. $-2/3$ | 14. 2 | 15. $\frac{1}{2}$ |
| 16. 1 | 17. $-3/4$ | 18. $-1/2$ | 19. -1 | 20. -4 |

9.8 Direct and Inverse Variation

Answers

- | | | | | |
|------------|------------|-----------|-----------|------------|
| 1. Direct | 2. Inverse | 3. Direct | 4. Direct | 5. Inverse |
| 6. Inverse | 7. Direct | 8. Direct | 9. Direct | 10. Direct |
| 11. True | 12. True | 13. True | 14. False | 15. True |

9.9 Using Slope – Intercept Form

Answers

- | | | | |
|--------------------------------|-----------------------|------------------------|-------------------------|
| 1. $m = 2$, $y = 4$ | 2. $m = 3$, $y = -2$ | 3. $m = 4$, $y = 3$ | 4. $m = 5$, $y = -1$ |
| 5. $m = \frac{1}{2}$, $y = 2$ | 6. $m = -2$, $y = 4$ | 7. $m = -3$, $y = -1$ | 8. $m = -1/3$, $y = 5$ |
| 9. Standard Form | 10. $y = -1/2x + 3$ | 11. $-1/2$ | 12. 3 |
| 13. Standard Form | 14. $y = -2x + 8$ | 15. -2 | 16. 8 |
| 17. Standard form | 18. $y = -x + 3$ | 19. -1 | 20. 3 |

9.10 Graphing Linear Equations

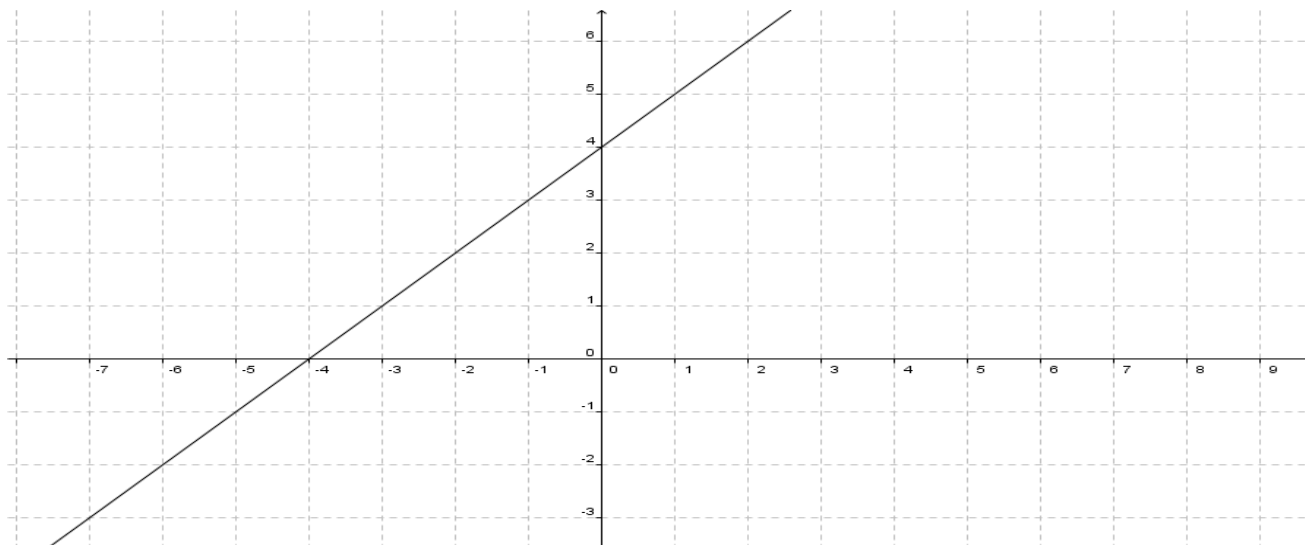
Answers

1. $y = x + 4$

2. 1

3. 4

4.

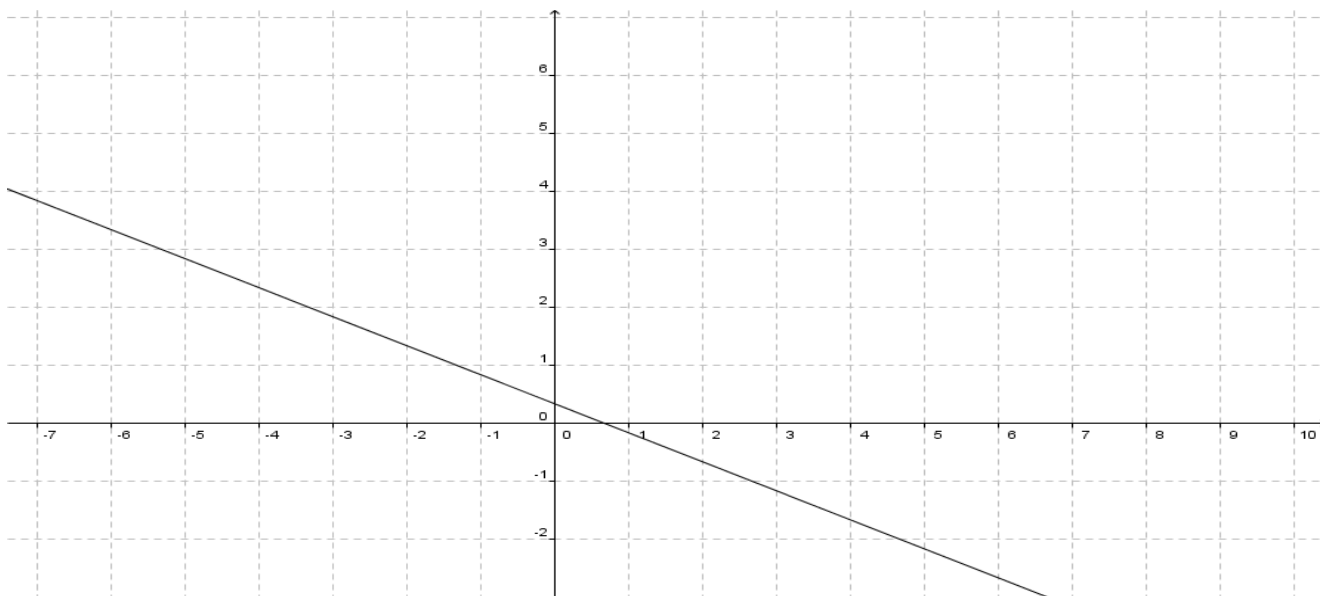


5. $y = -\frac{1}{2}x + \frac{1}{3}$

6. $-\frac{1}{2}$

7. $\frac{1}{3}$

8.



9. $4x + 20 = 47$

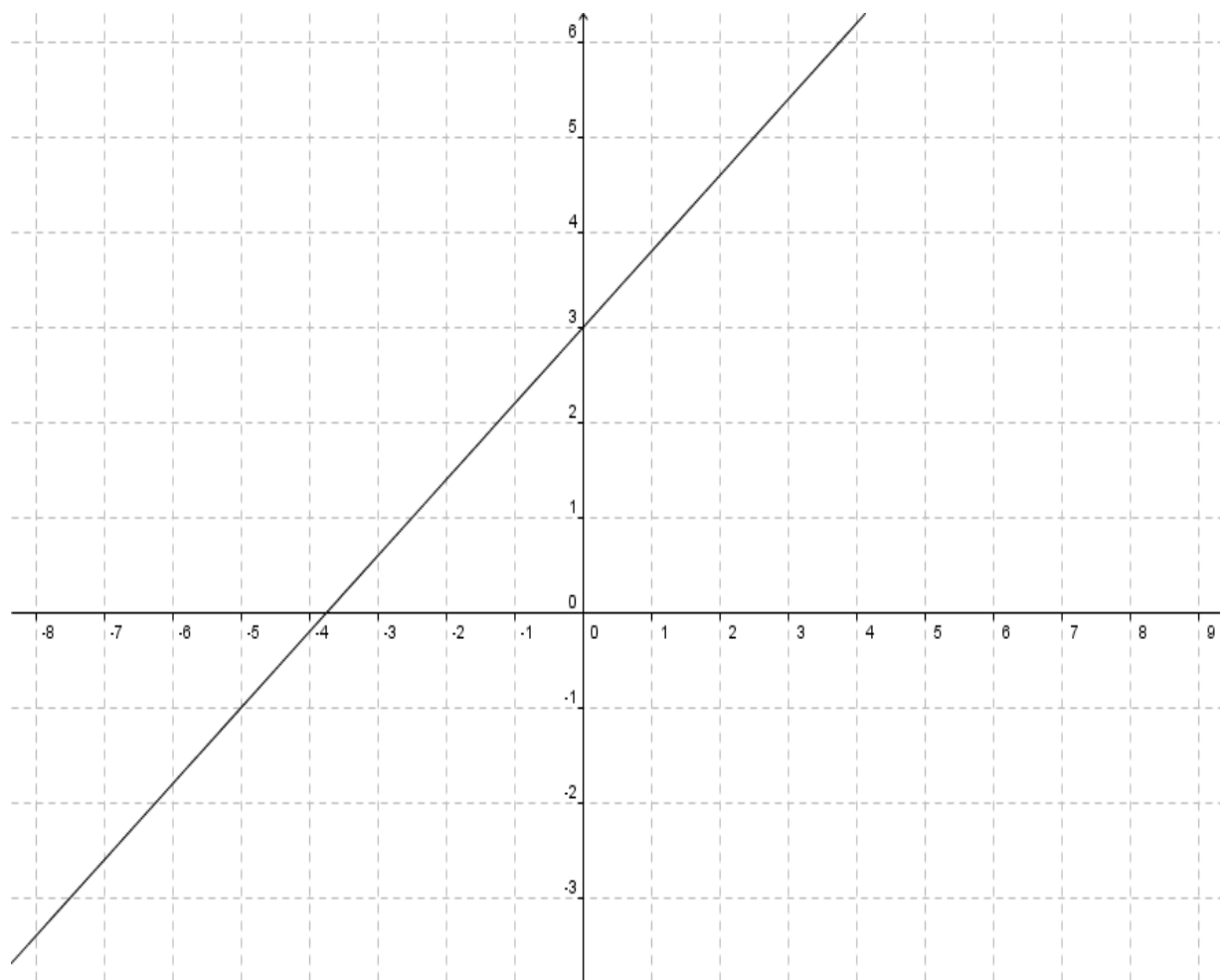
10. $x = 6 \frac{3}{4}$ weeks or 7 weeks

11. .8

12. Slope intercept form

13. 3

14.



15. Linear graph

9.11 Writing Linear Equations**Answers**

1. $y = 2x + 4$

2. $y = -3x + 2$

3. $y = -4x + 4$

4. $y = 3x - 5$

5. $y = 1/2x - 2$

6. $y = -1/3x + 2$

7. $y = x + 8$

8. $y = -2x + 4$

9. $y = -x - 1$

10. $y = 5x - 2$

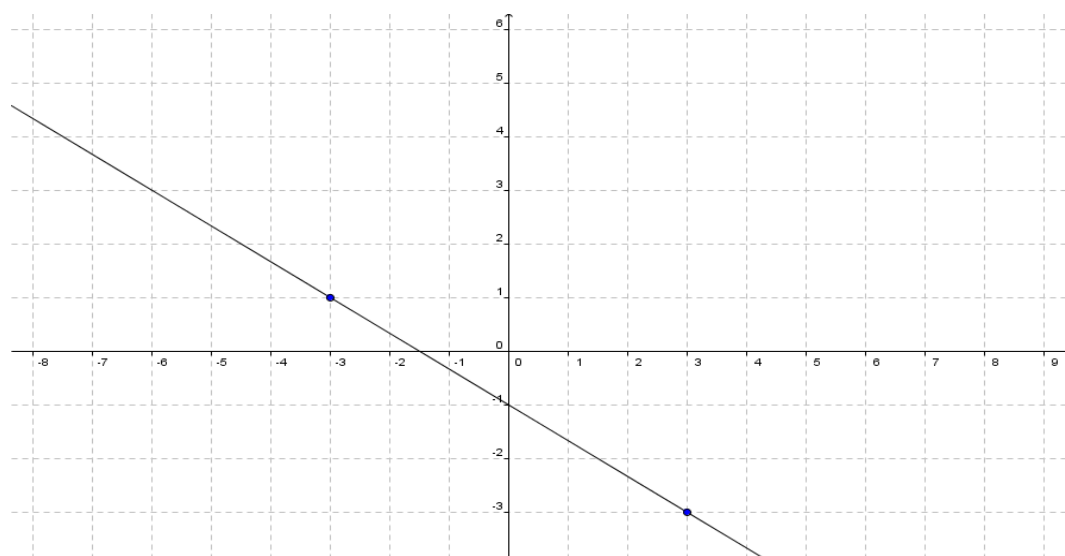
11. $y = 7$

12. $y = -4$

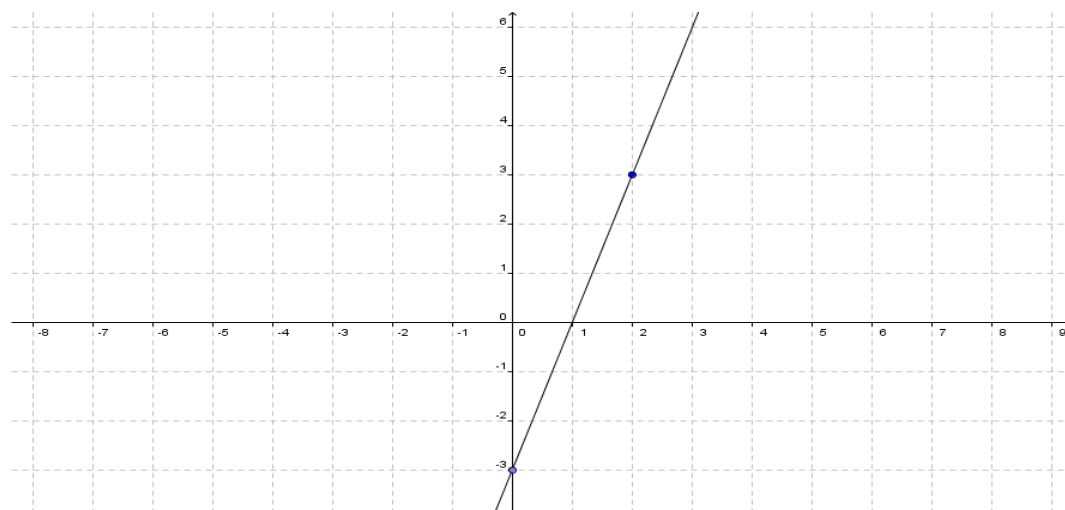
13. $x = 2$

14. $x = -5$

15. $y = -2/3x - 1$



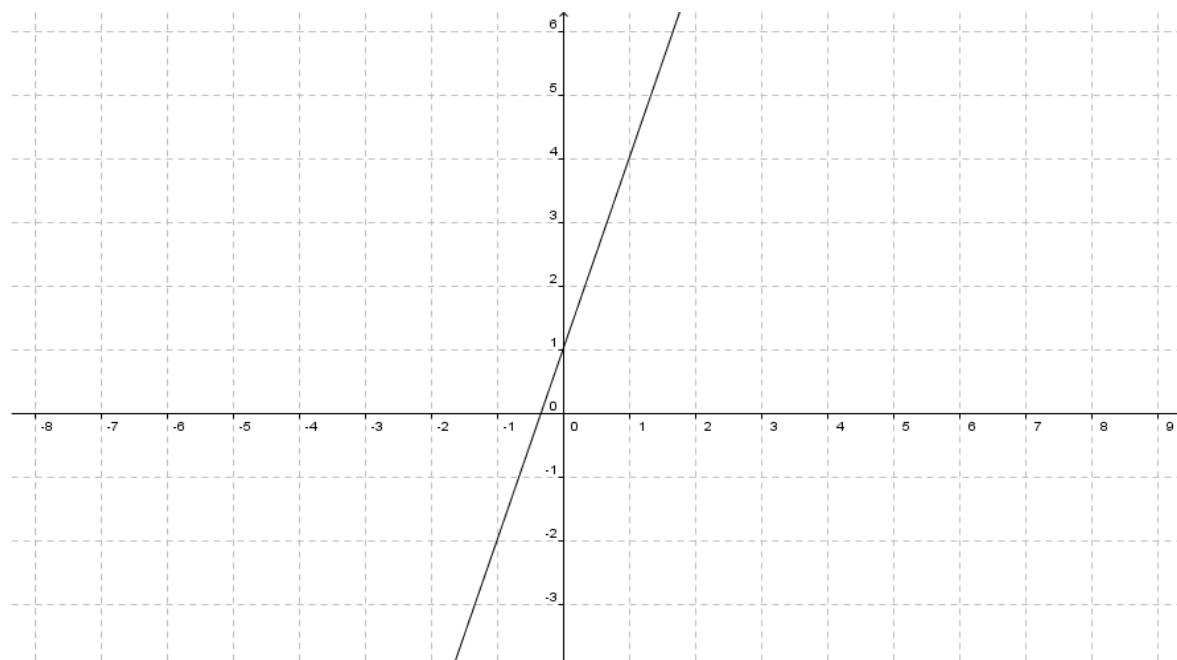
16. $y = 3x - 3$



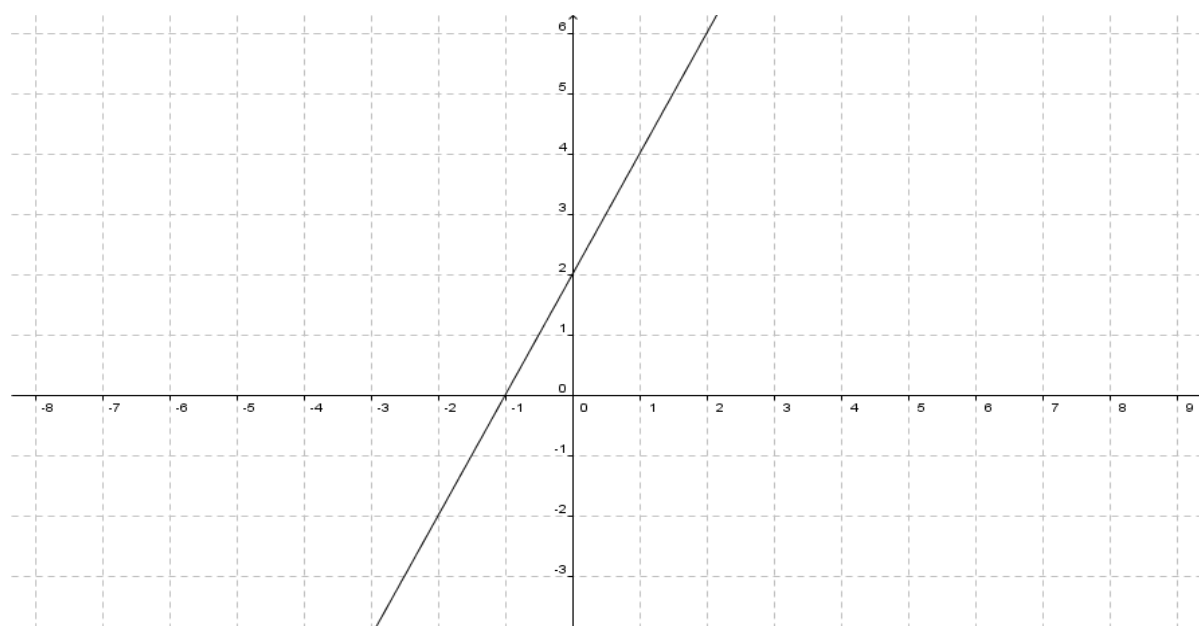
9.12 Use Function Notation to Graph Functions

Answers

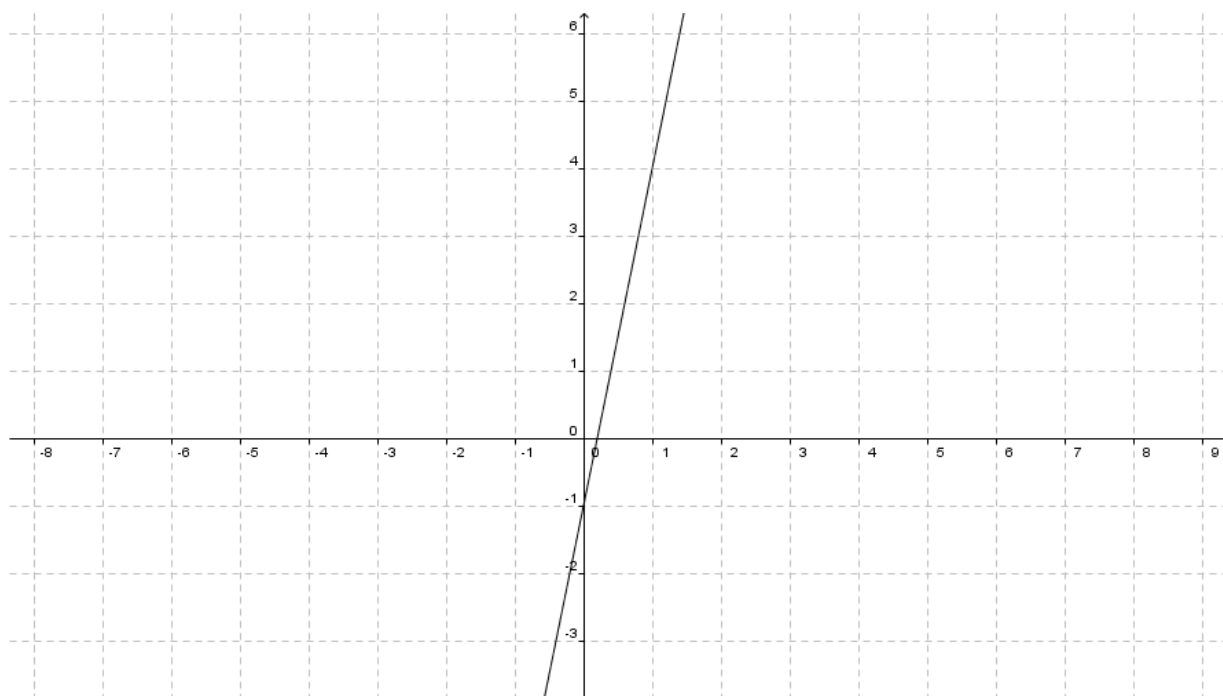
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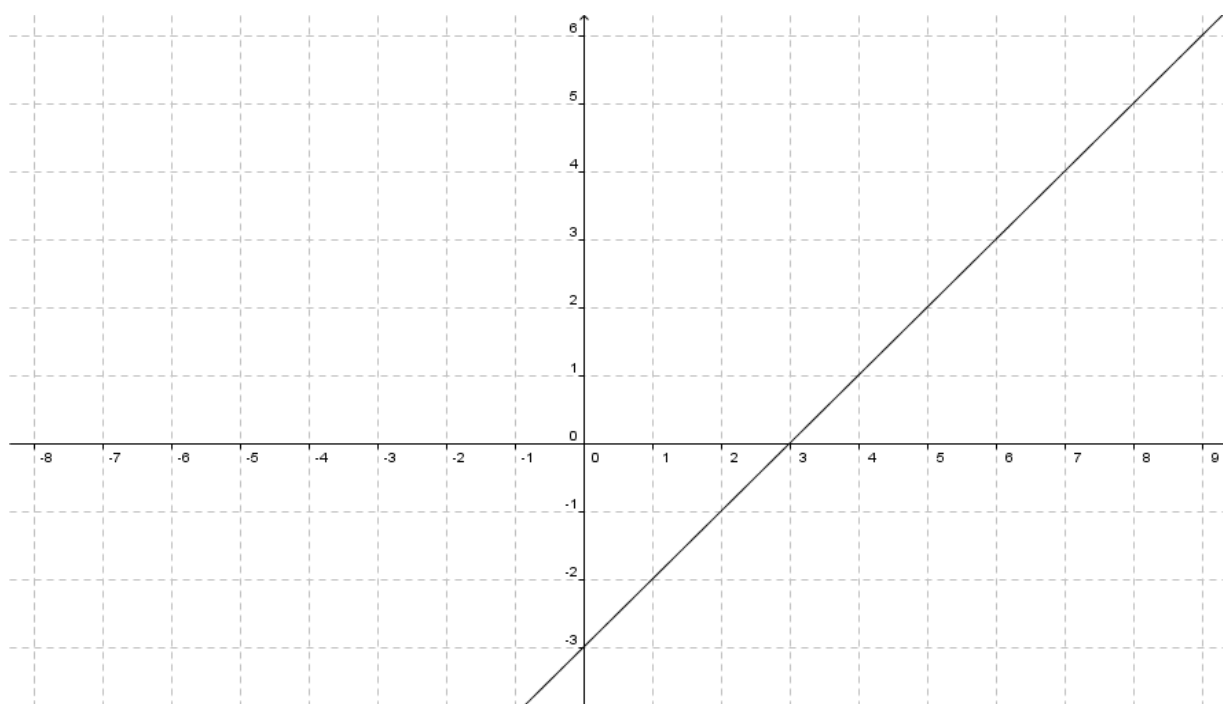
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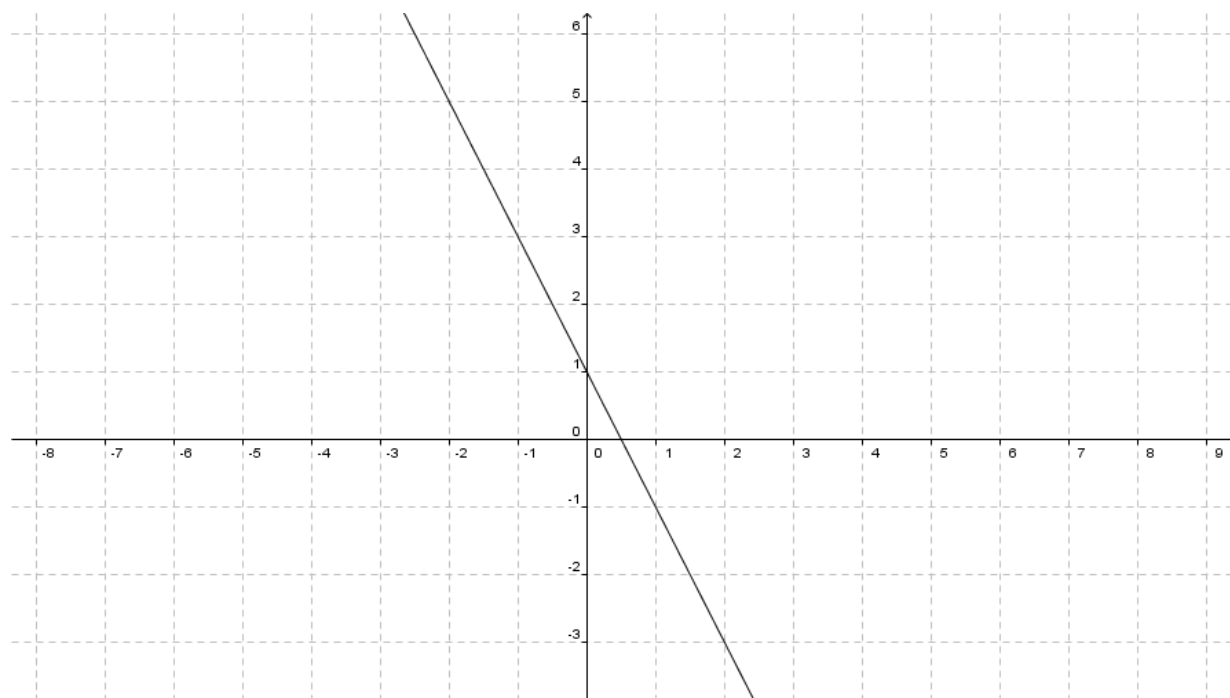
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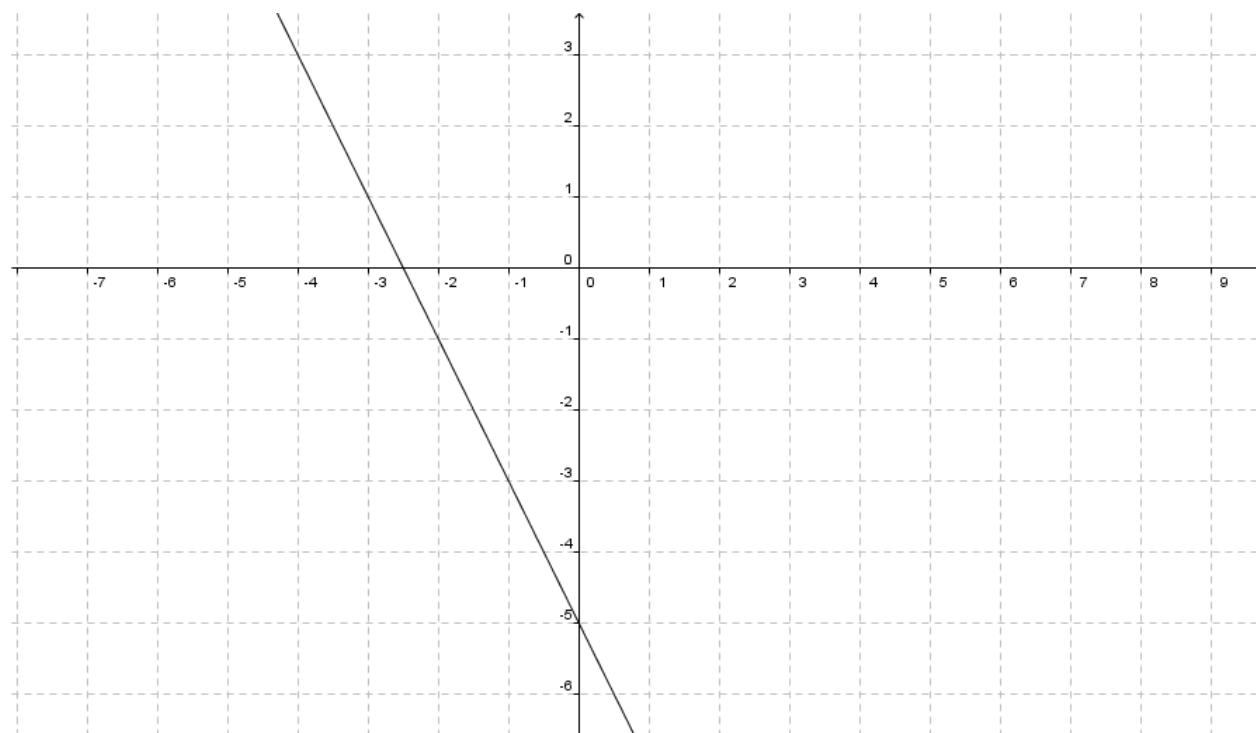
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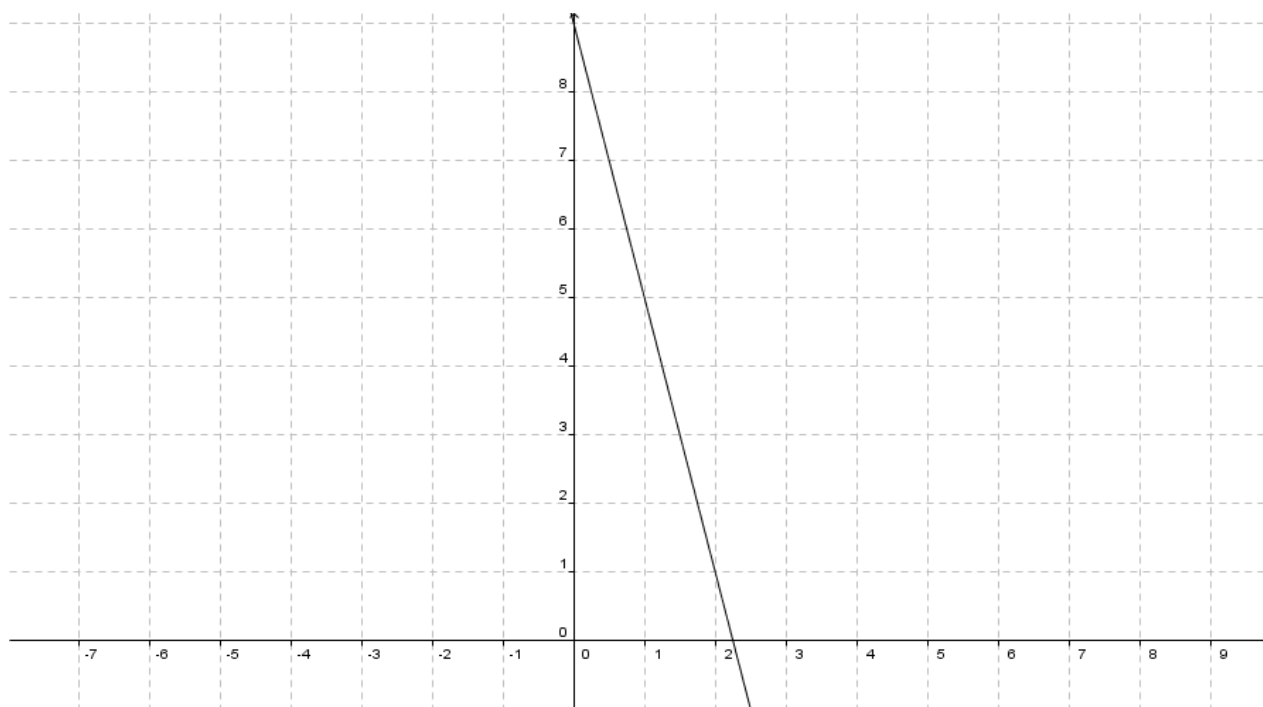
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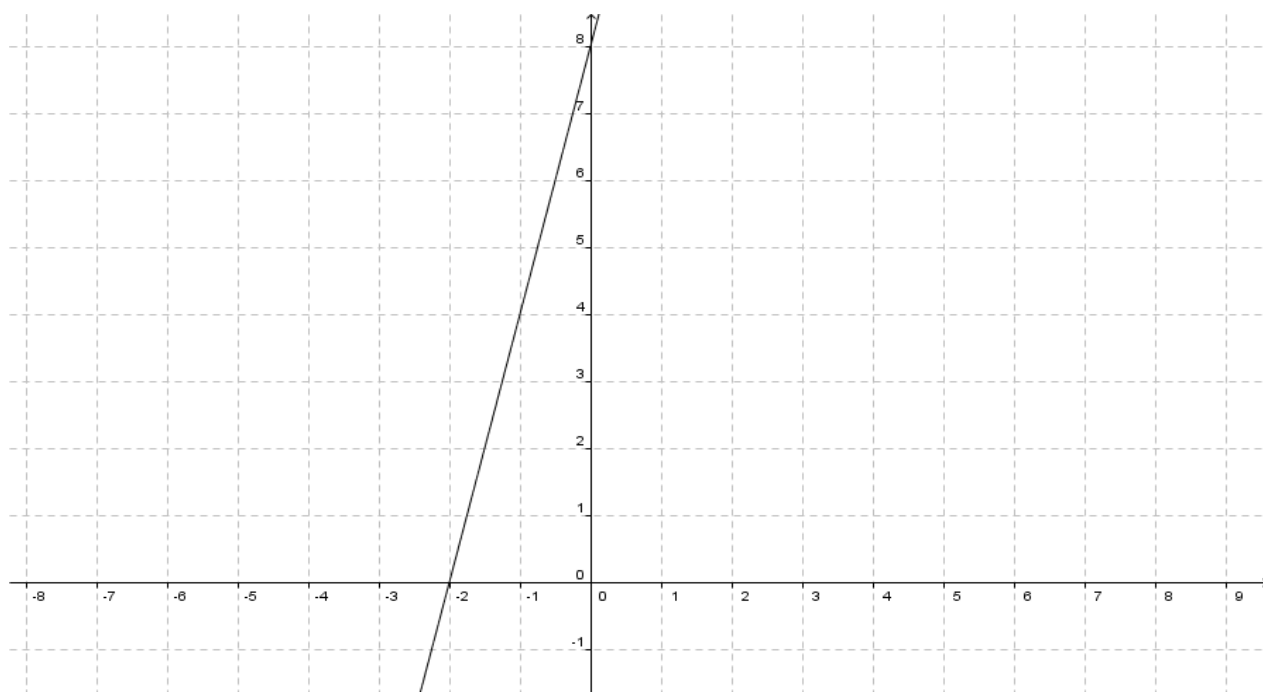
6.



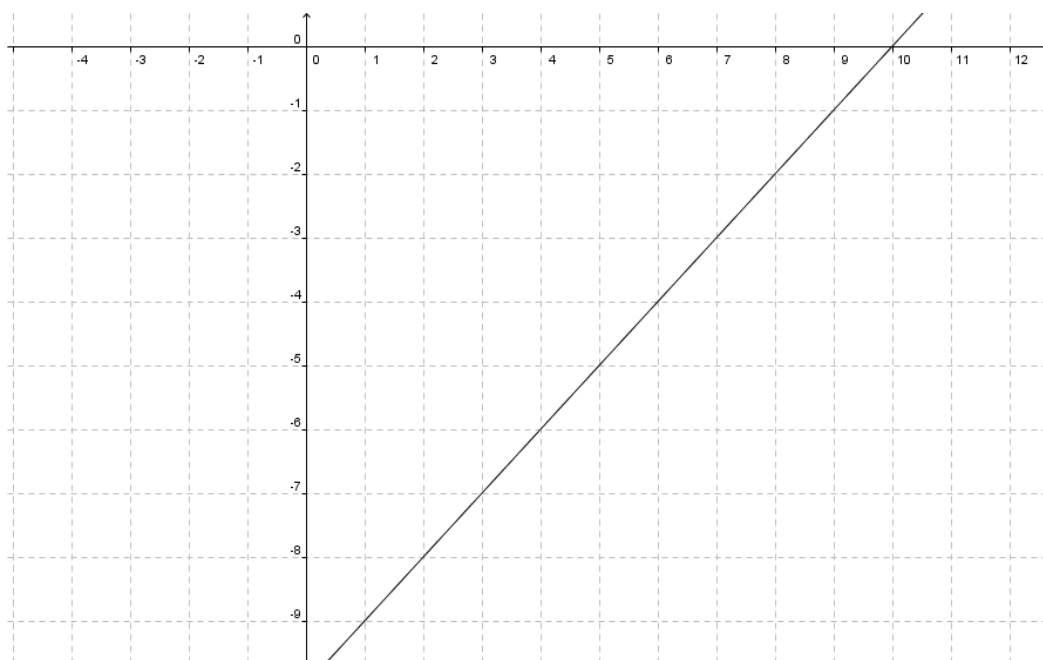
7.



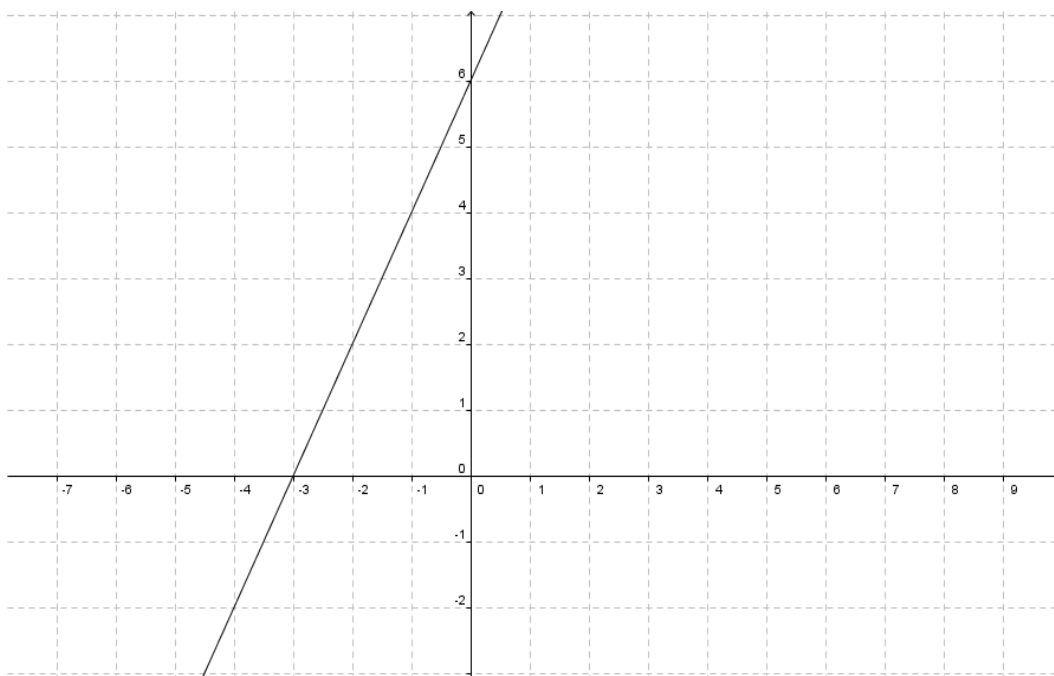
8.



9.



10.



11. $1100 = 30t$

12. 30

13. $y = \$1.50x + 3000$

14. \$1.50

15. 4667 books

9.13 Recognize Linear Systems

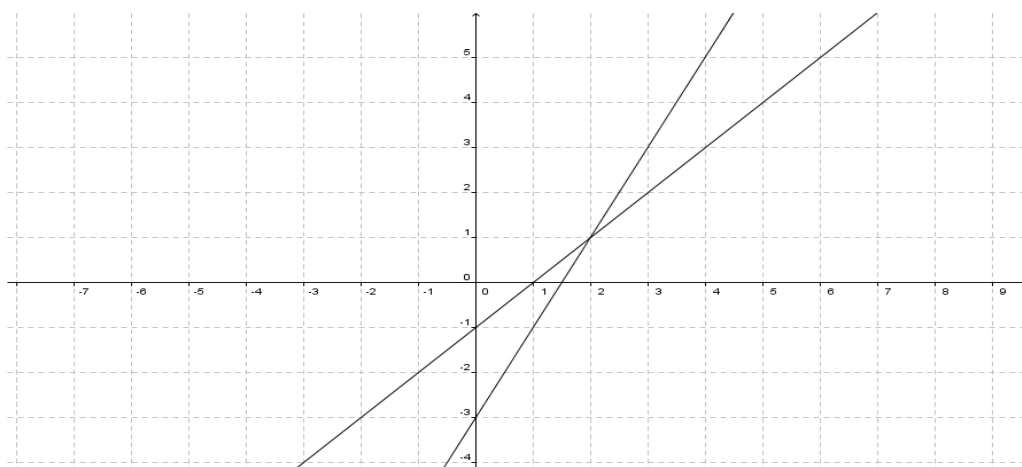
Answers

- | | | | | |
|-----------------|-----------------|-----------------|-------------|-----------------|
| 1. d (3, -2) | 2. b (2, -1) | 3. No solutions | 4. Infinite | 5. No solutions |
| 6. no solutions | 7. No solutions | 8. True | 9. False | 10. false |
| 11. True | 12. True | 13. True | 14. True | 15. False |

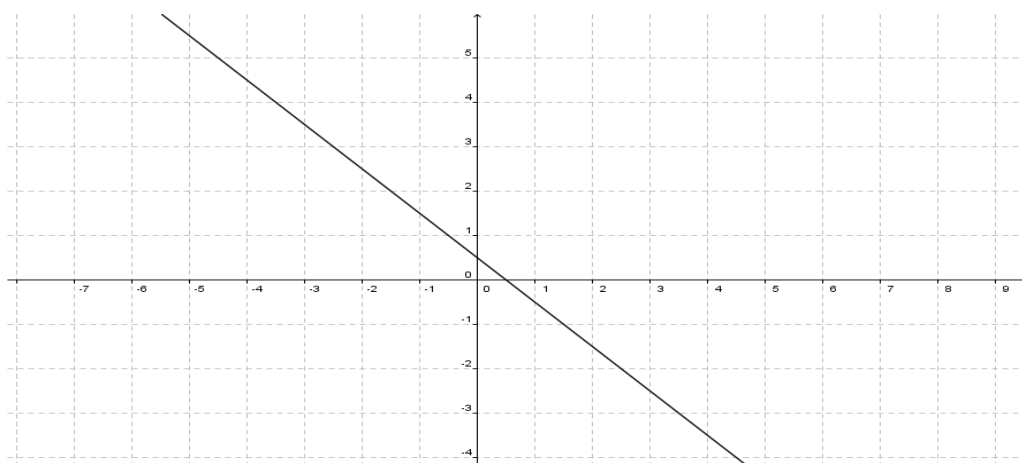
9.14 Solving Linear Systems by Graphing

Answers

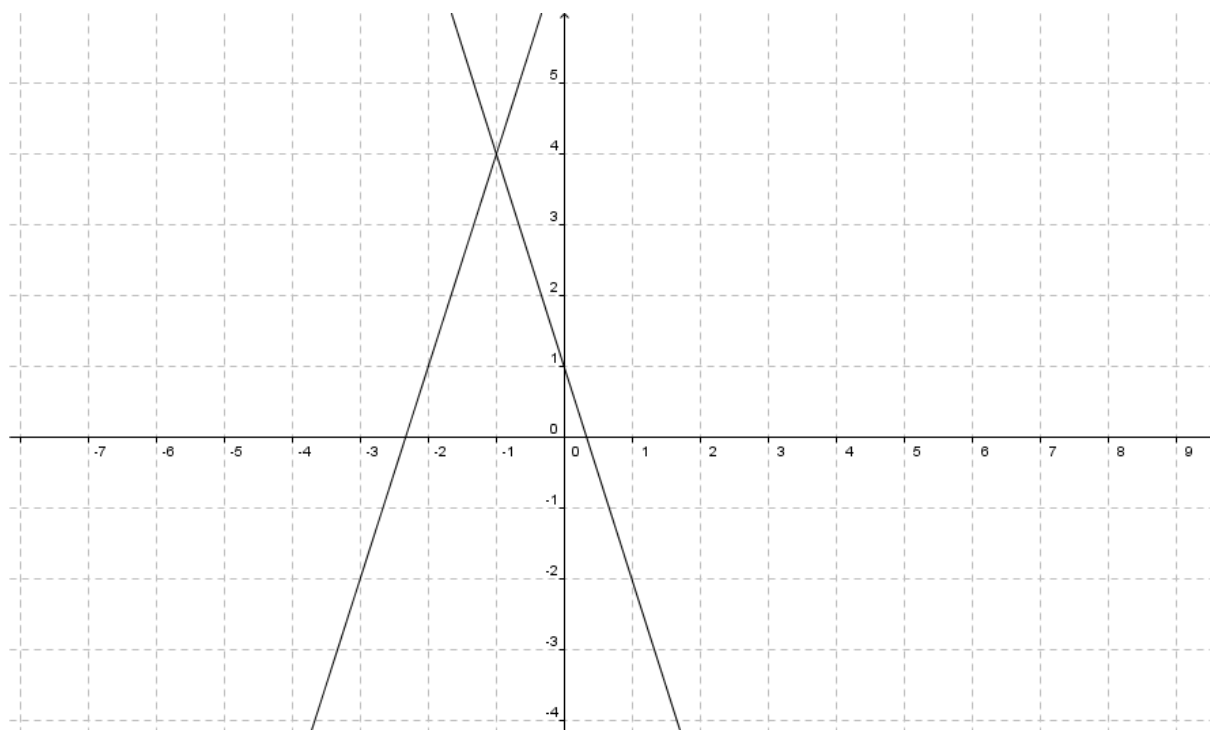
1. (2, 1)



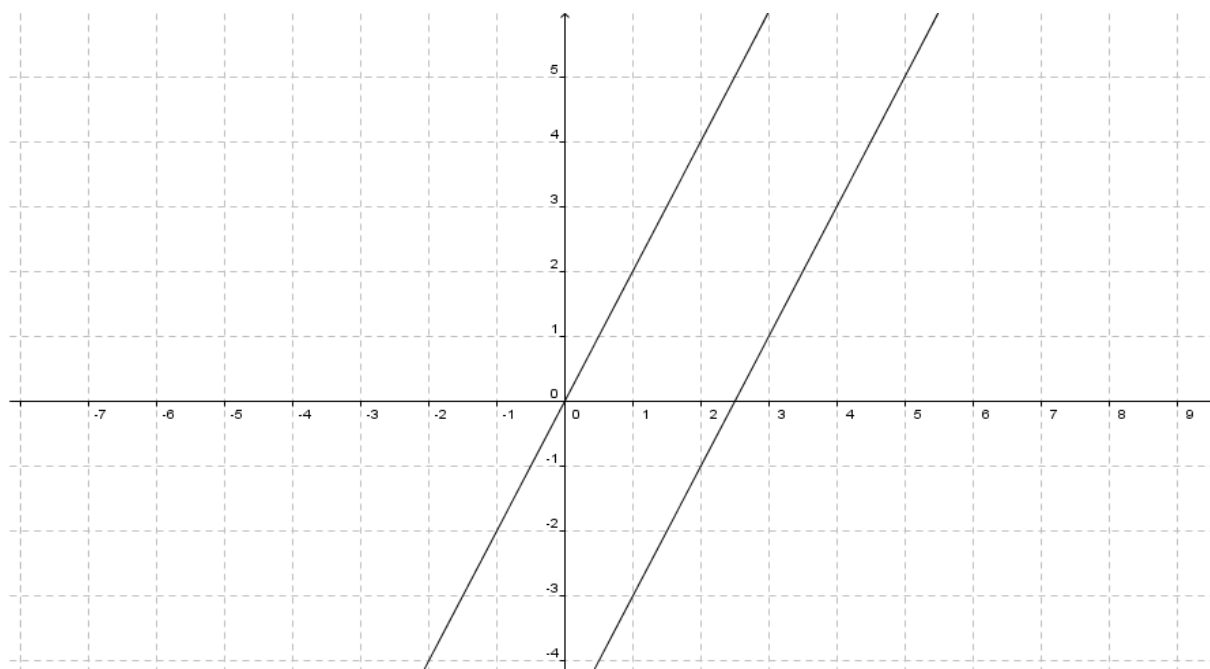
2. Infinite solutions



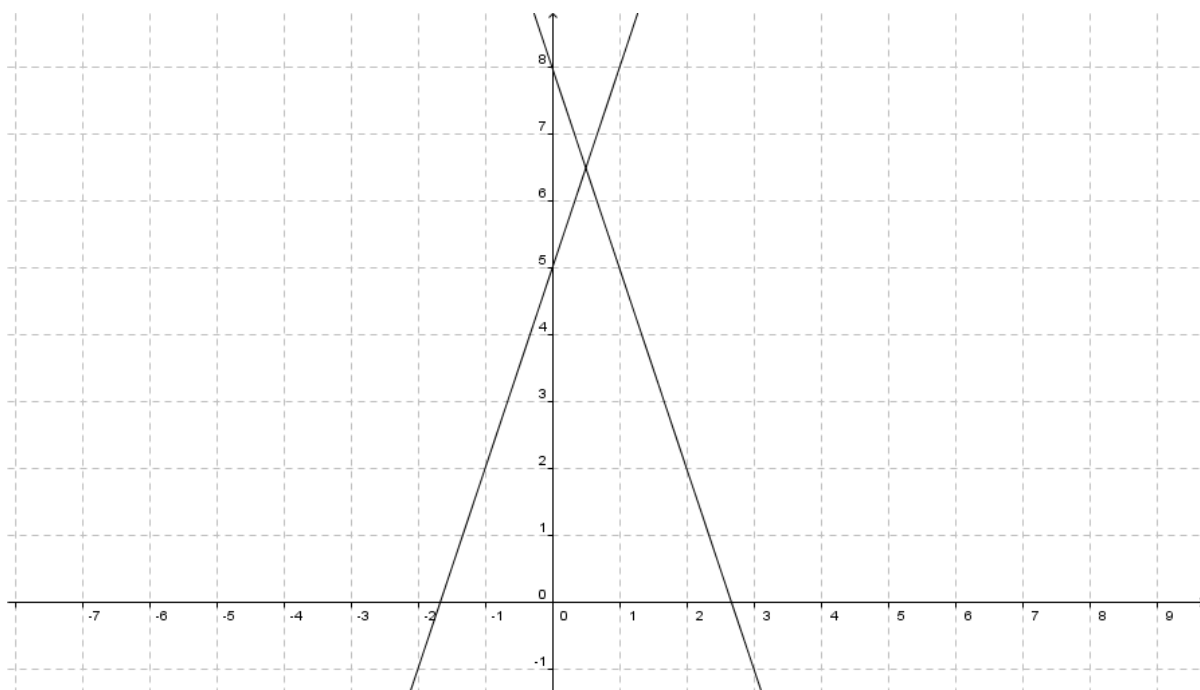
3. $(-1, 4)$



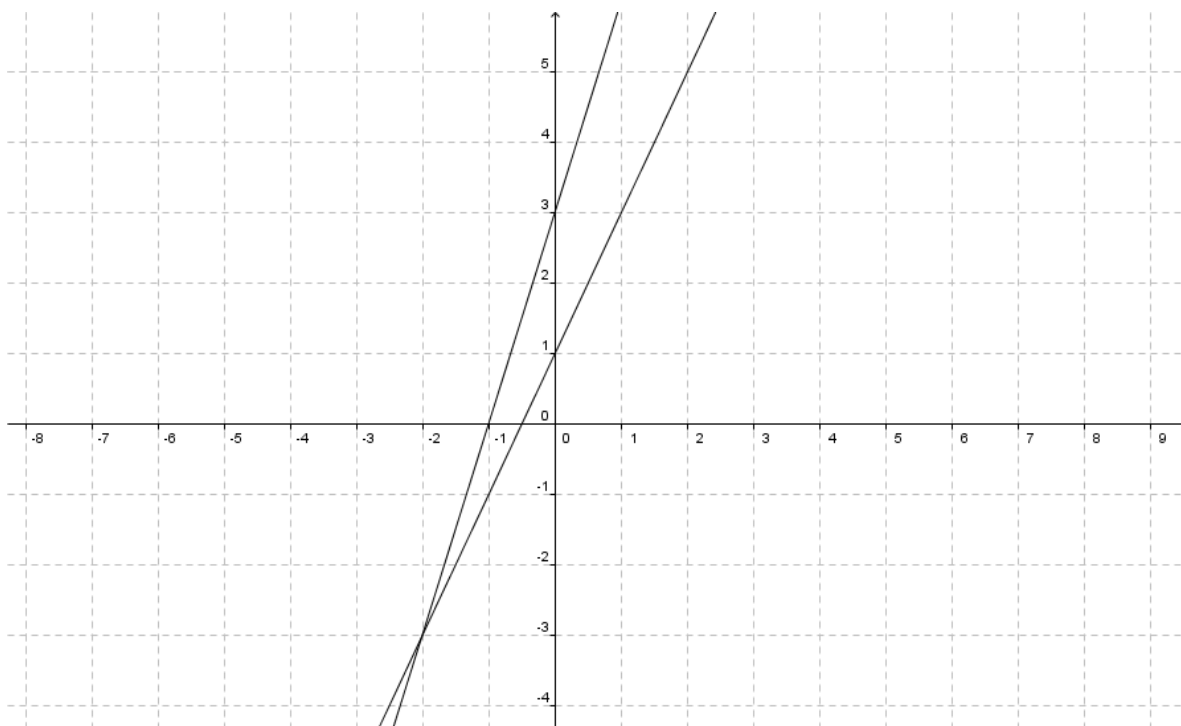
4. No solutions



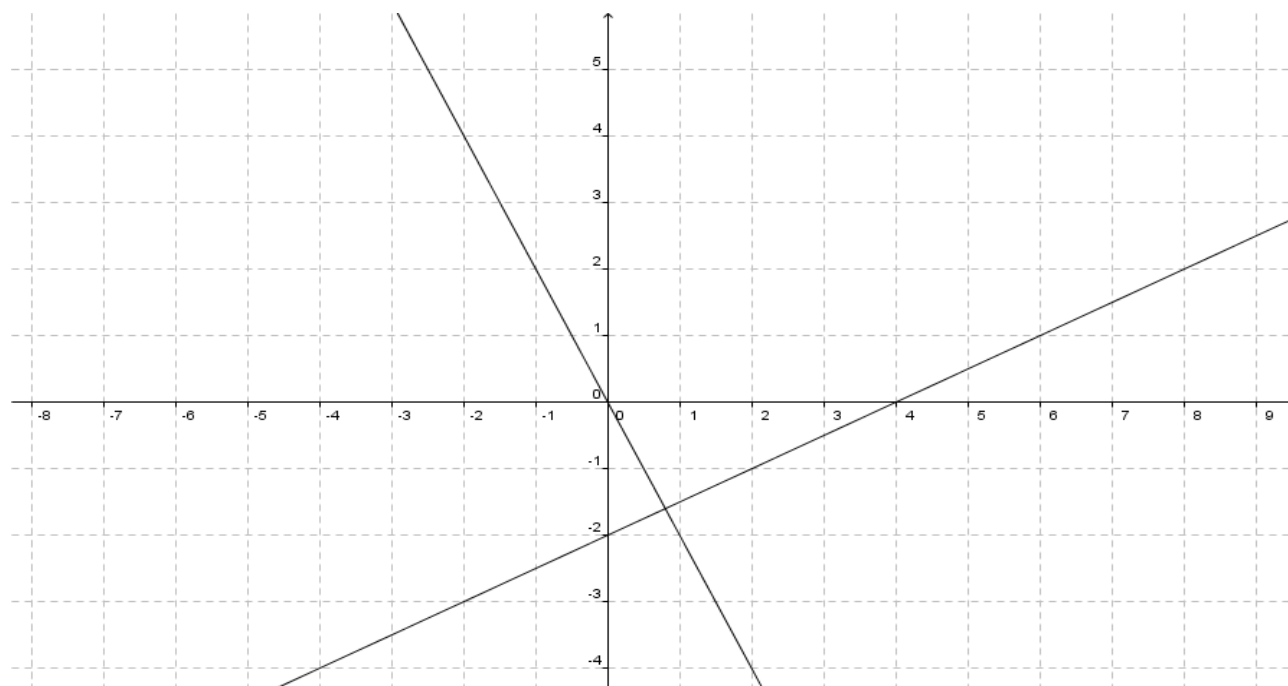
5. $(\frac{1}{2}, 6\frac{1}{2})$



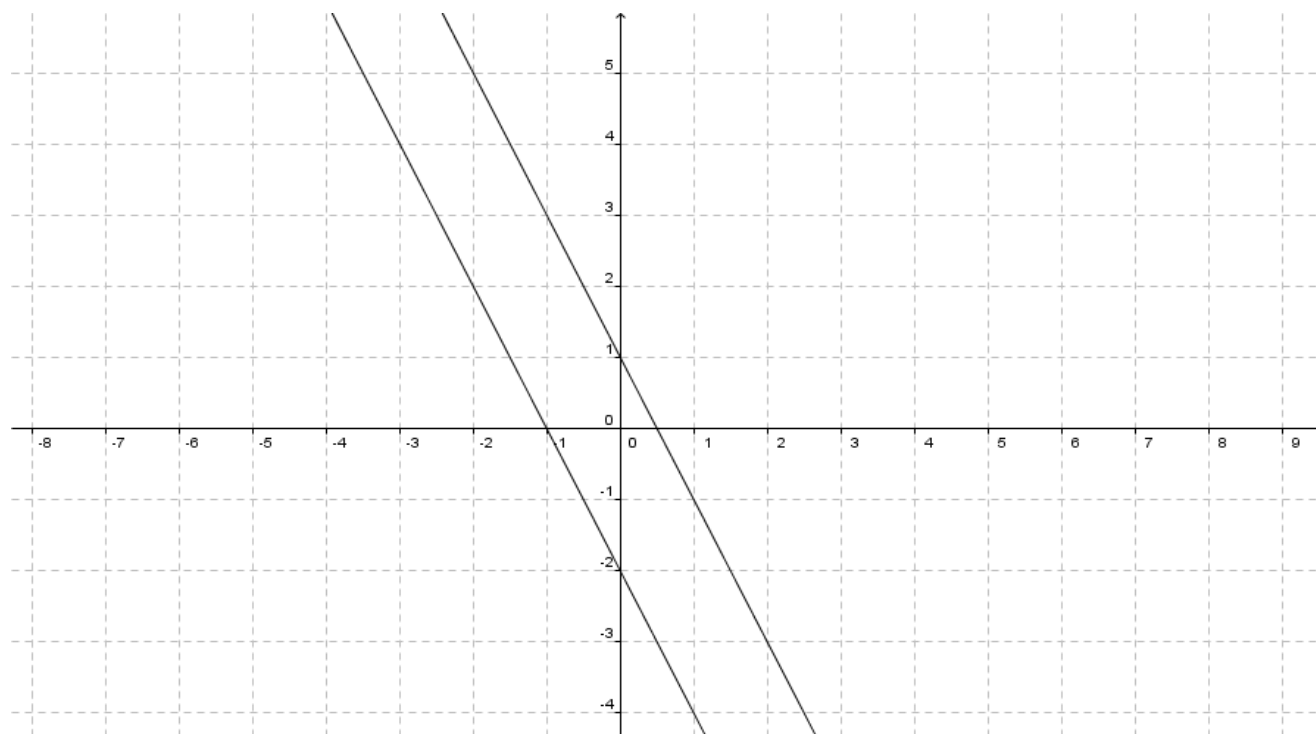
6. $(-2, -3)$



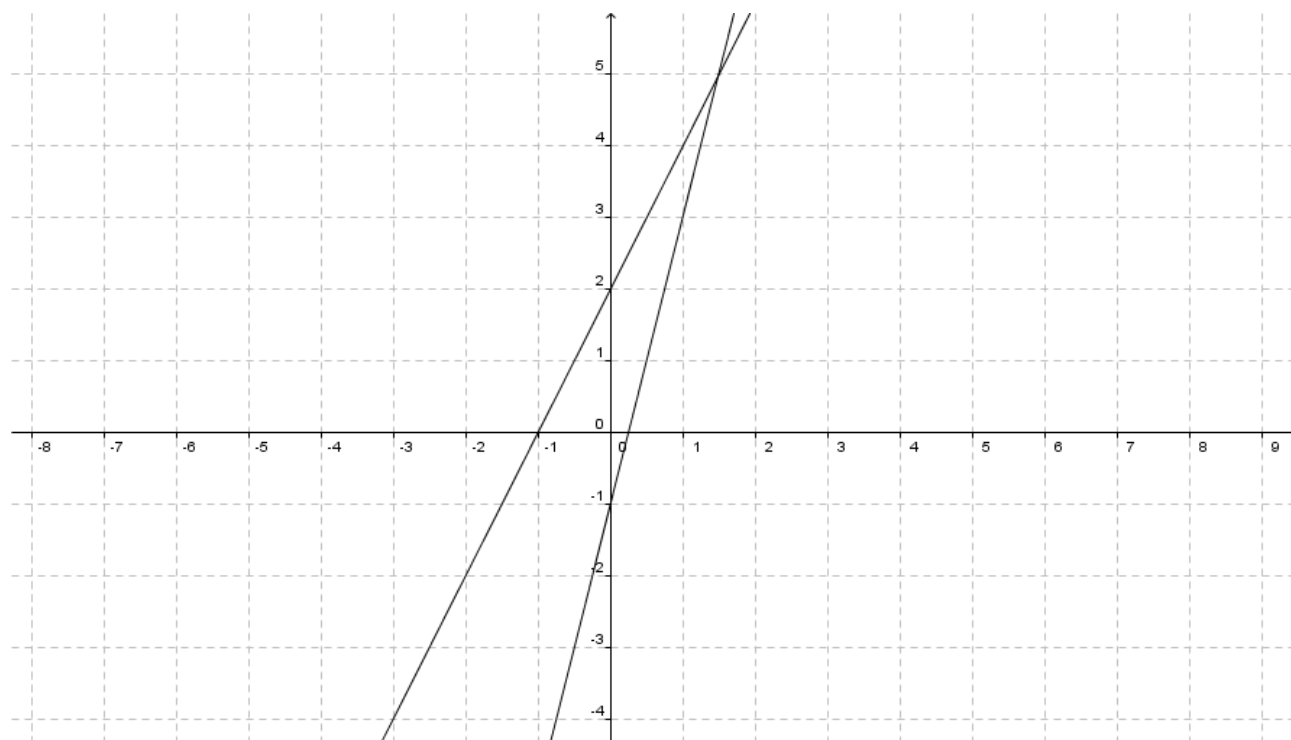
7. $(\frac{3}{4}, -1\frac{3}{4})$



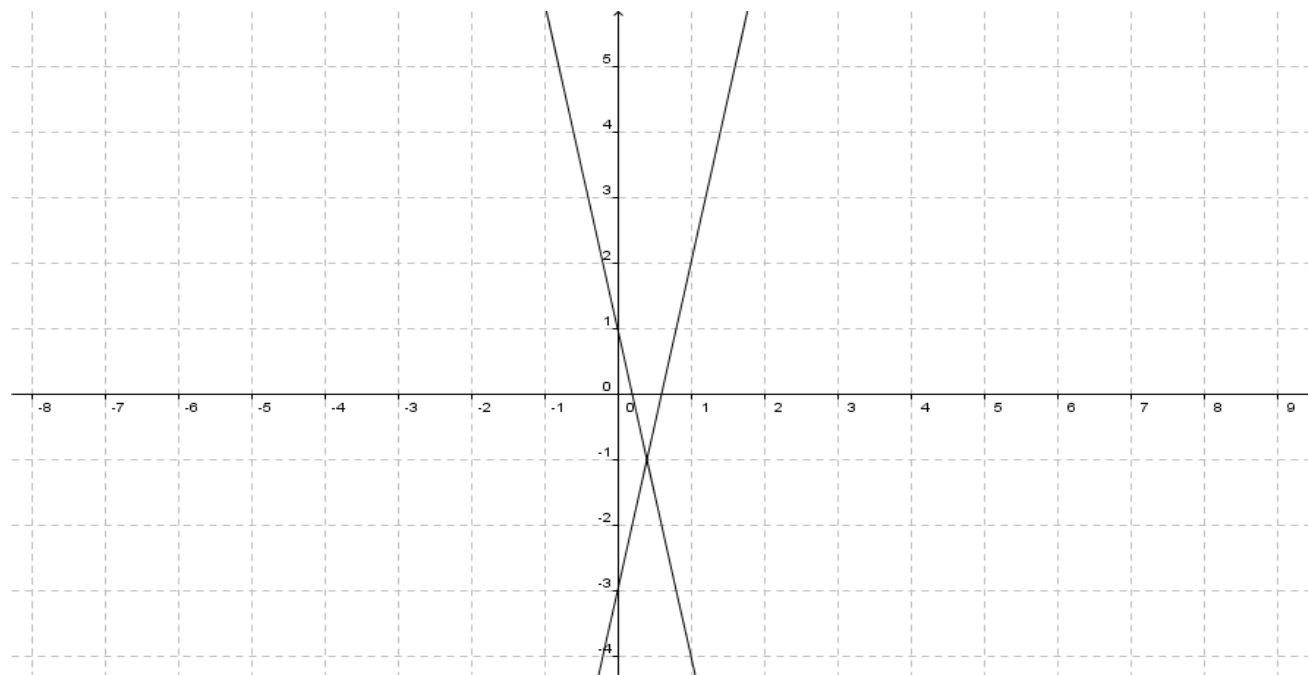
8. No solutions



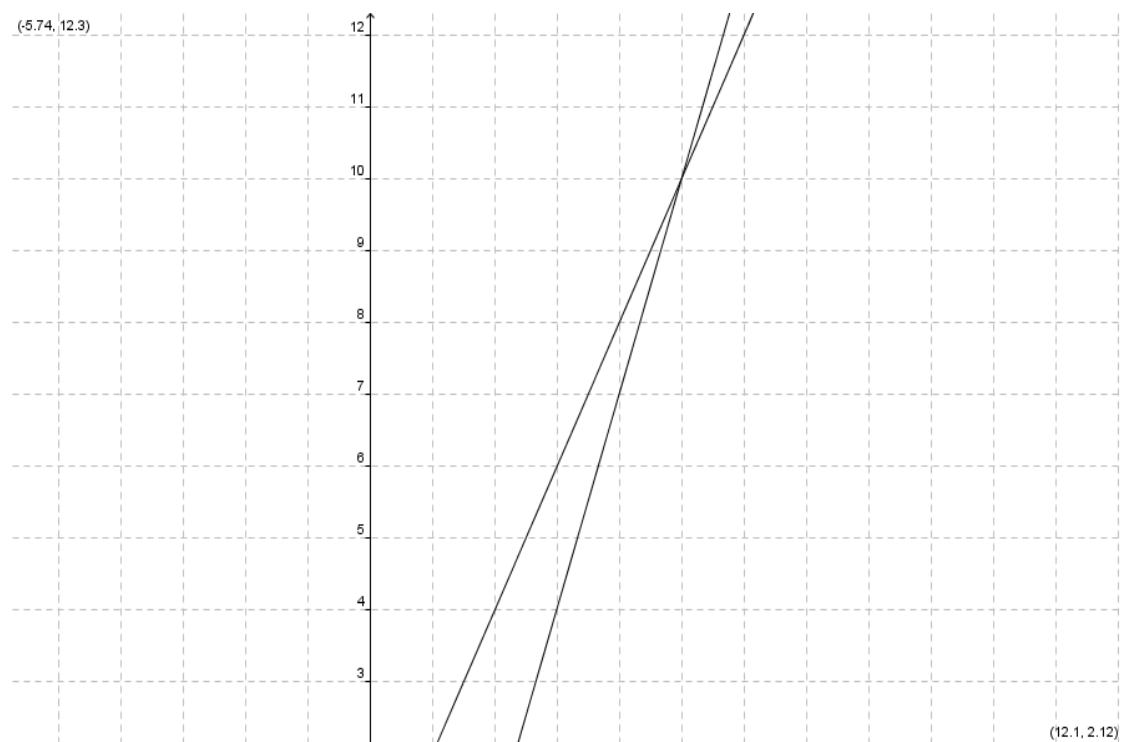
9. $(1\frac{1}{2}, 5)$



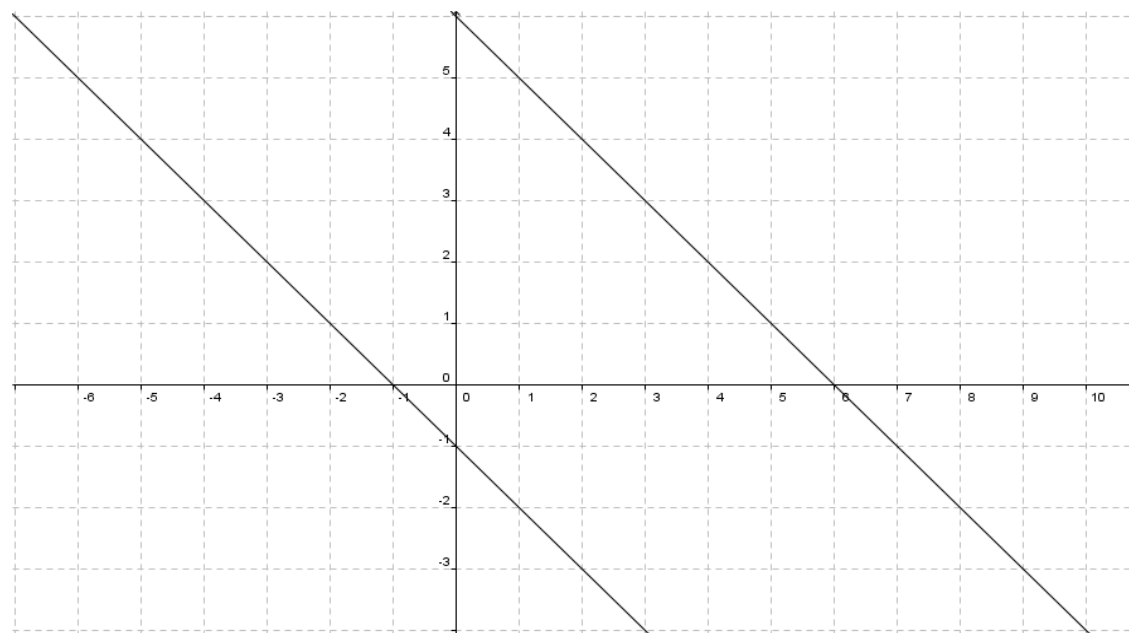
10. one solution – approx. $(\frac{1}{3}, -1)$



11. (6, 10)



12. No solutions



13. True

14. True

15. True

9.15 Solving Linear Systems by Substitution

Answers

- | | | |
|-----------------------|-----------------------|----------------------|
| 1. $x = -7, y = 8$ | 2. $x = 6, y = -5$ | 3. $x = 4, y = 3$ |
| 4. $x = 4, y = 3$ | 5. $x = -12, y = 16$ | 6. $x = -3, y = 2$ |
| 7. $x = 6, y = -12$ | 8. $x = 1, y = 9$ | 9. $x = 9, y = 2$ |
| 10. $x = -6, y = 9$ | 11. $x = -1/2, y = 3$ | 12. $x = 7, y = 8$ |
| 13. $x = -1/2, y = 0$ | 14. $x = 2, y = 4$ | 15. $x = -18, y = 3$ |

9.16 Solving Linear Inequalities

Answers

- | | |
|-------------------|--------------------------|
| 1. $x - y > 8$ | 2. $1/2x \geq 3y$ |
| 3. $x + y/4 < 15$ | 4. $7x + y - 3 \leq -16$ |
| 5. $6x > -30$ | 6. $5x + 6 \leq 39$ |
| 7. $12/x < 7$ | 8. $6x + y - 2 \leq -12$ |
| 9. No | 10. No |
| 11. Yes | 12. No |
| 13. No | 14. No |
| 15. Yes | 16. No |

9.17 Graphing Linear Inequalities**Answers**

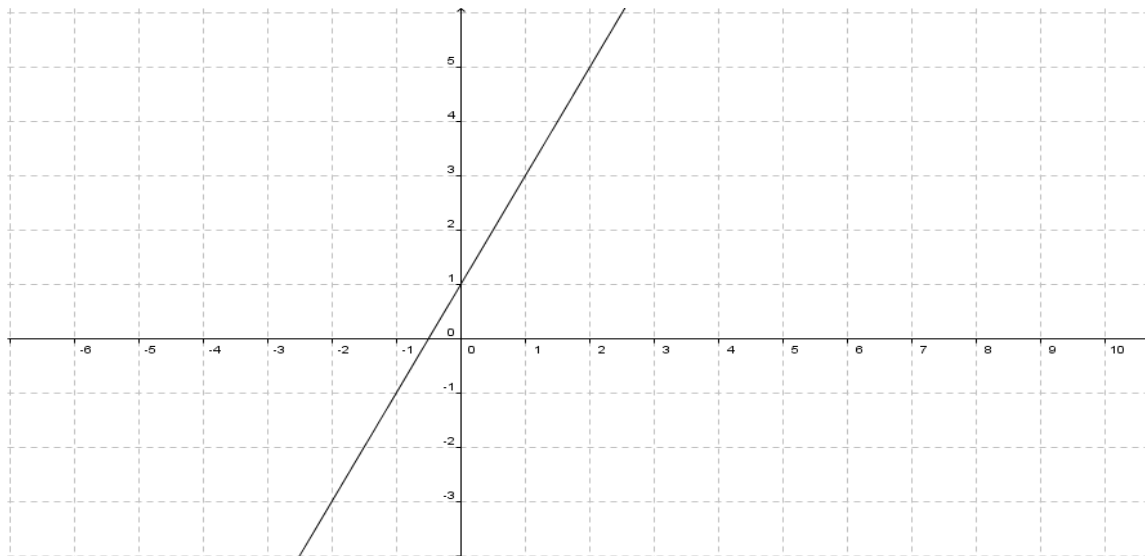
1. $x > 4$

2. $y \geq \frac{1}{2}x - 3$

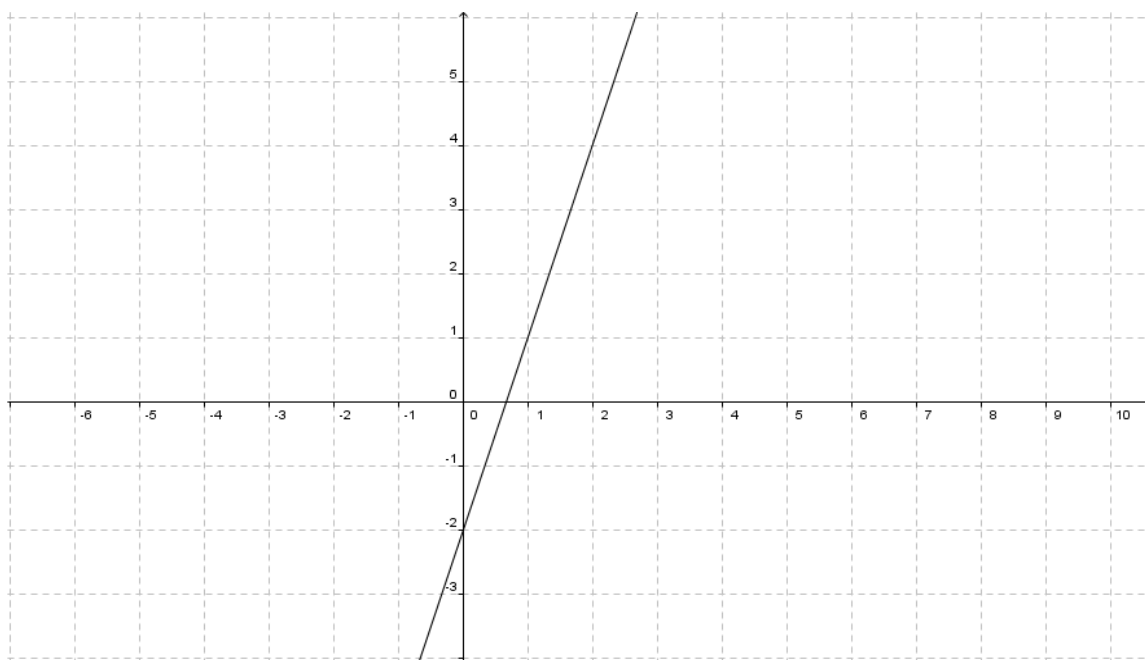
3. $y \geq \frac{1}{2}x - 3$

4. $y \leq \frac{1}{2}x - 3$

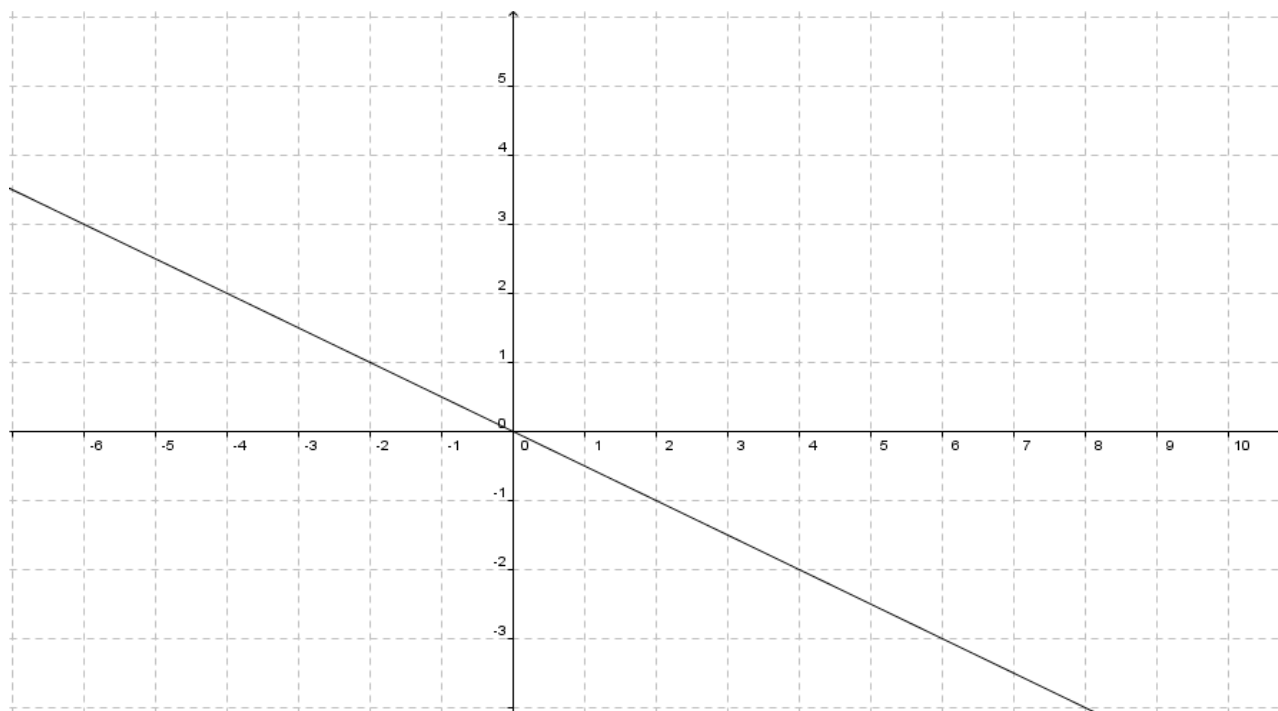
5. Line should be dotted, shaded below the line



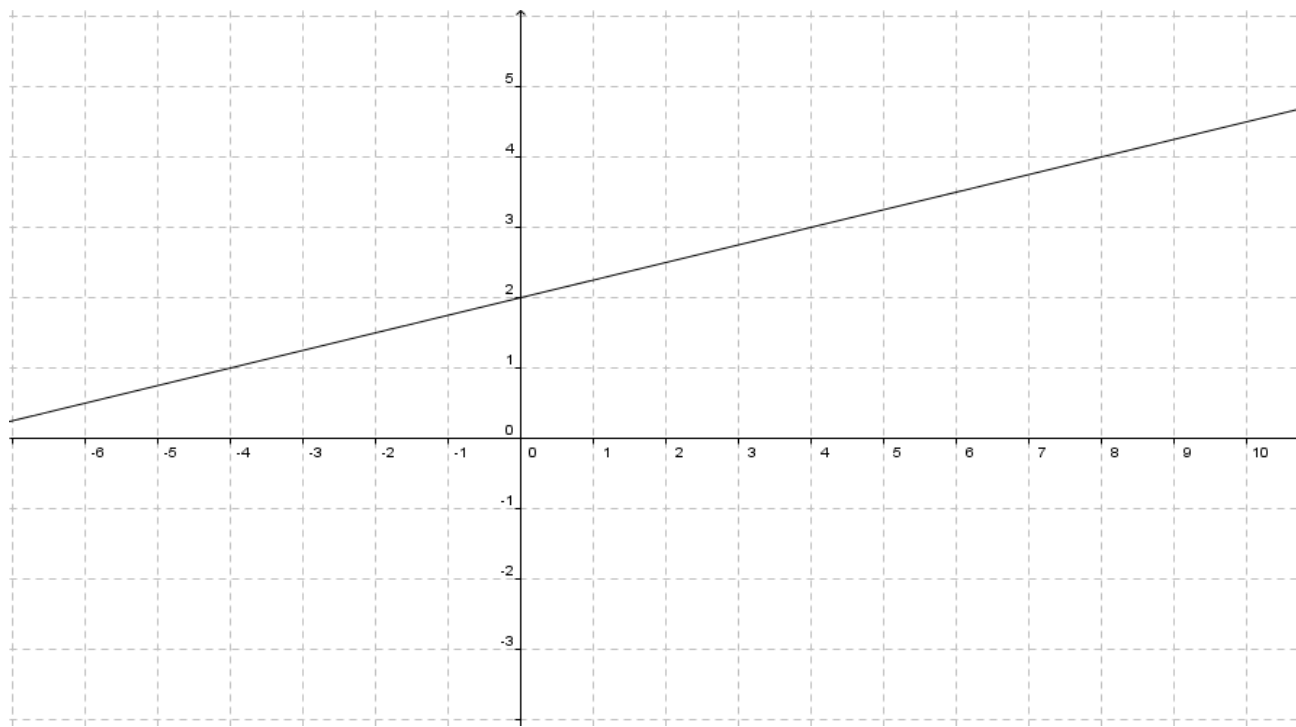
6. shaded above the line



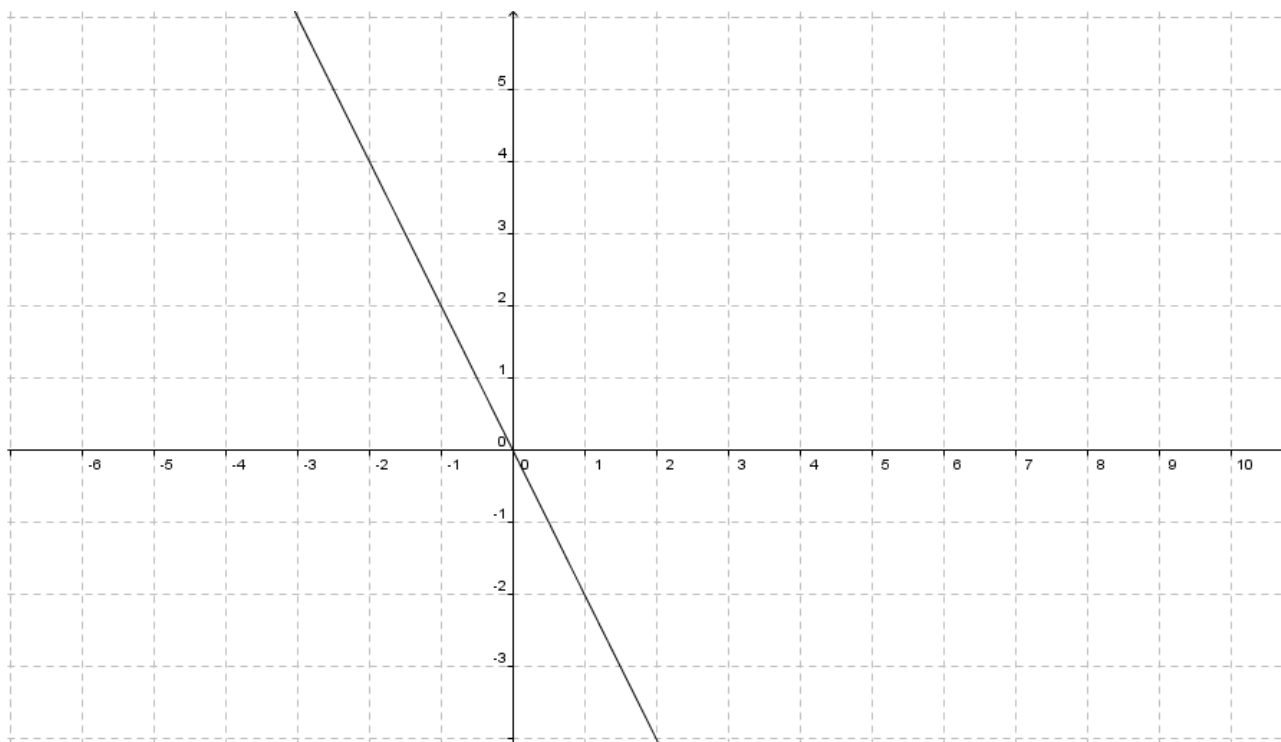
7. Shaded above the line



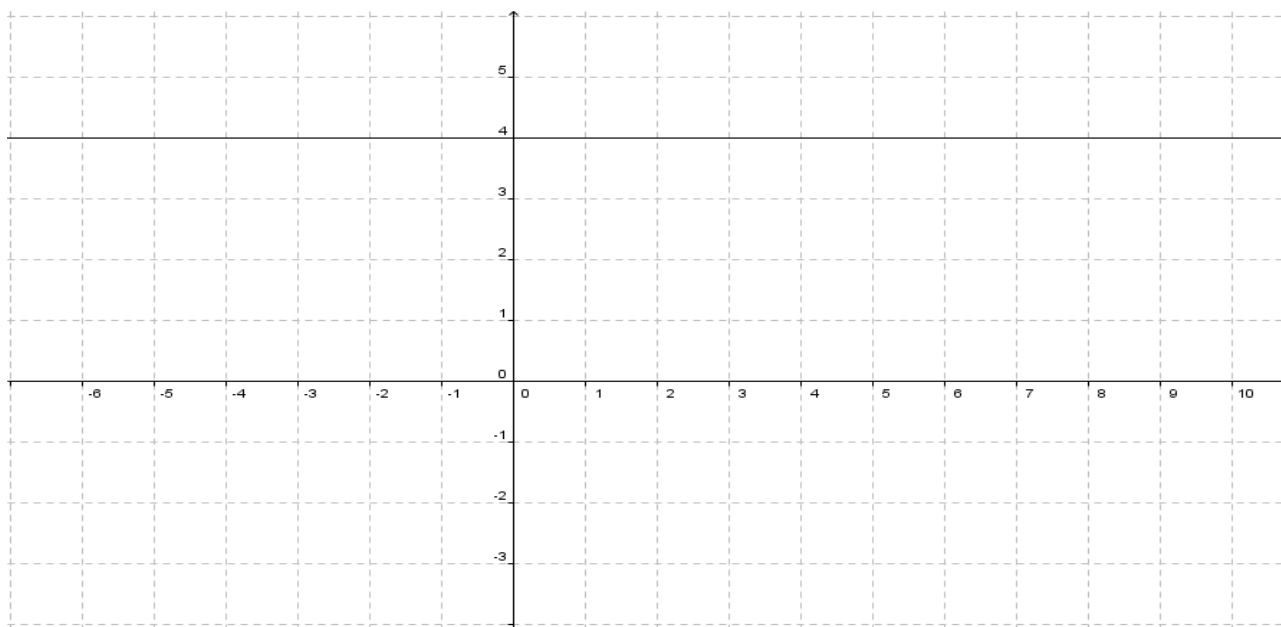
8. shaded below the line



9. line should be dotted, shaded to the left of the line



10. shade below the line



11. false

12. False

13. True

14. True

15. true

10.1 Mean, Median, Mode and Range

Answers

- | | | | |
|-----------|---------|------------|--------|
| 1. 19 | 2. 18 | 3. 24 | 4. 11 |
| 5. 117.7 | 6. 120 | 7. no mode | 8. 64 |
| 9. 29.6 | 10. 30 | 11. 22 | 12. 18 |
| 13. 164.4 | 14. 163 | 15. 150 | 16. 78 |

10.2 Understanding the Mean

Answers

1. Mean – the average of a data set
2. The middle term in a data set
3. The value that occurs the most times in a data set.
4. How far a value is from the mean
5. The difference between the highest and lowest values in a data set
6. 137.8 kg
7. 136.5 kg
8. No mode
9. 24
10. .5 kg
11. 131.6 kg
12. 130 kg
13. No mode
14. 35
15. 7 kgs.

10.3 Stem and Leaf Plots

Answers

1.	3	6
	4	0 3 5 5 5
	5	0 5 5
	6	0 0 3
	7	5
	8	0
	9	0

2. 40's

3. 30's, 70's, 80's, 90's

4. Most values occurred from 40 – 45

5. 3 – 9

6. Record zero in that category

7.		0	6
	5 4	1	0 2 5 6 7 9
	9 8 7 7 4	2	0 1 4
	5 4 1	3	

8. 10's

9. 20's

10. Hybrid is cheaper

11.	1	0 5 8
	2	0 2
	3	0 5
	4	0
	5	8

12. 10's

13. 40's, 50's

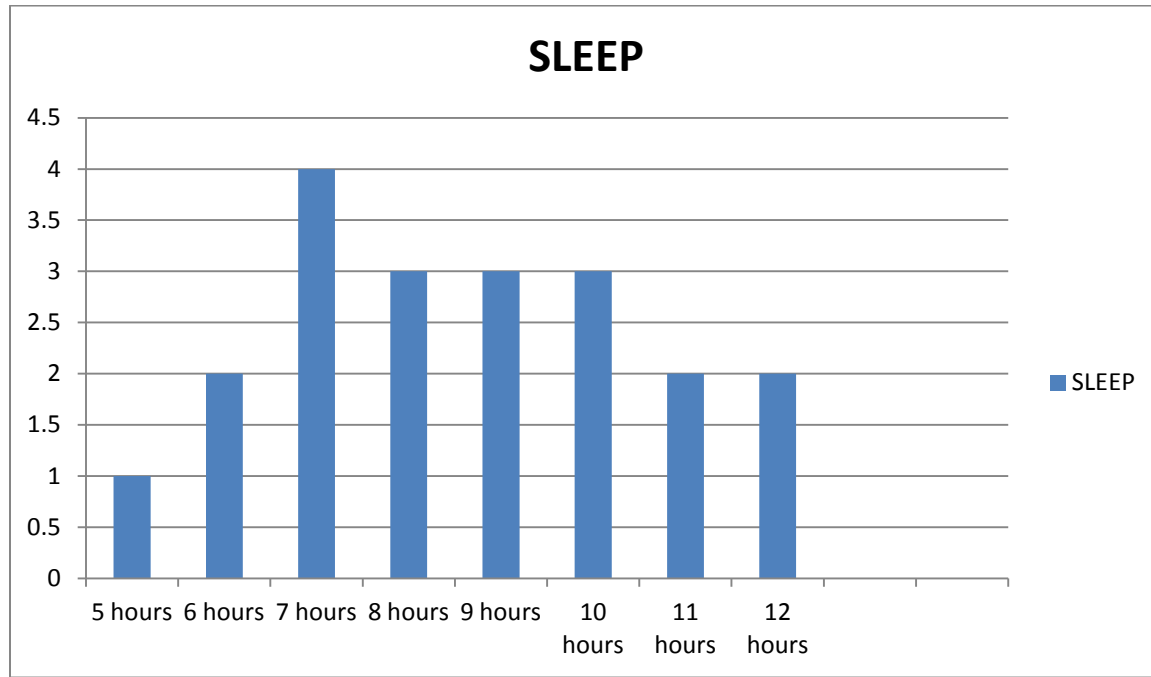
14. Range of 10.00 – 58.00

15. \$22.00

10.4 Frequency Tables and Histograms

Answers

1.



2. Intervals of half hours

3. Most people get 7 hours sleep

4. No

5. Histogram

6. yes

7. (0 – 2)

8. 0 – 14 hours

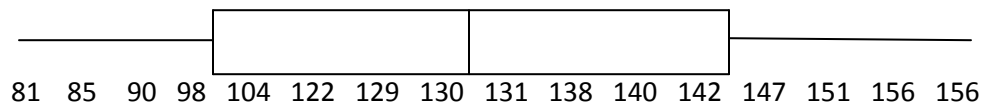
9. 2 sections – frequency of 2's to match hours

10 – 15 Answers Vary

10.5 Box-and- Whisker Plots

Answers

1.



2. 81 3. 156 4. 130.5 5. 126 – 127 6. 200 7. 162

8. 130 9. 195 10. 7 11. 13 12. 10 13. 8

14. 11.5 15. 8 – 10 dogs

10.6 Using-Box-and-Whisker Plots to Understand Data

Answers

1. Visual display of data organized on a number line around median's and quartiles.

2. Data that is divided into 4 areas on a box and whisker plot

3. The middle value in a data set

4. The highest and lowest value in a data set.

5. The middle range of the data between the first and third quartiles.

6. The values that lie outside the box on a box and whisker plot

7. 300

8. 255 – 300/300 – 350

9. 255 - 350

10. 125 and 405

11. 125 – 255 and 349 – 400

12. 32

13. 28

14. 41.5

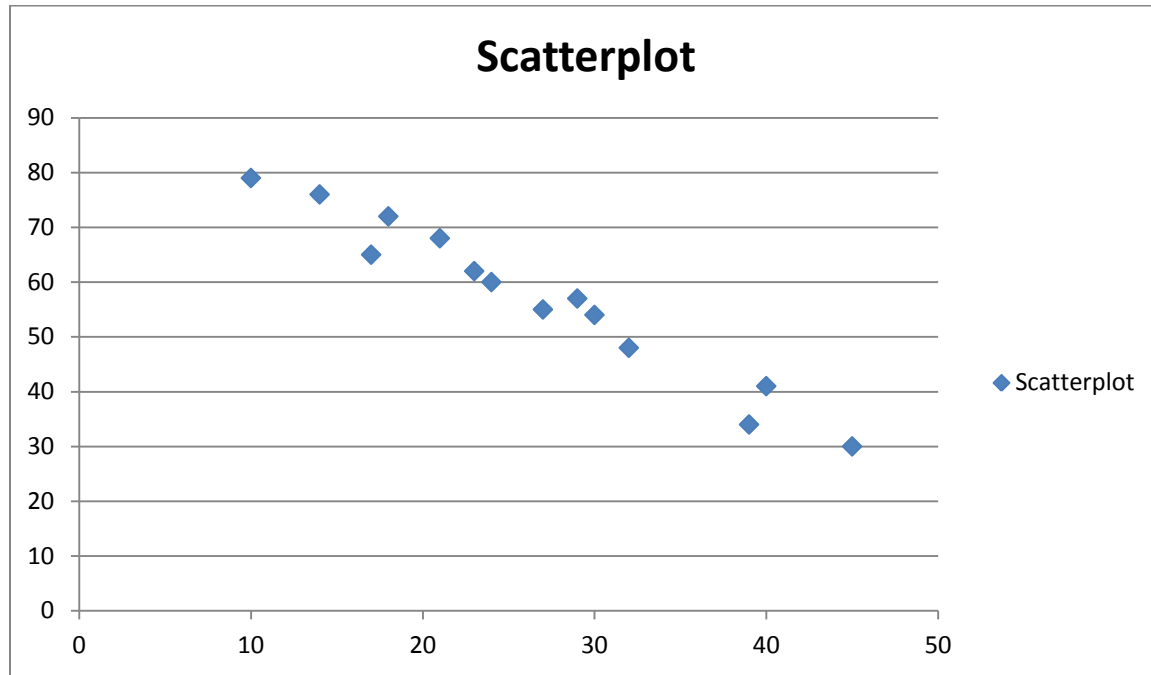
15. 26

16. 44

10.7 Make a Scatterplot to Represent Data

Answers

1.



2. Negative

3. Positive

4. No correlation

5. Positive

6. Positive

7. Positive

8. Positive

9. No correlation

10. False

11. False

12. True

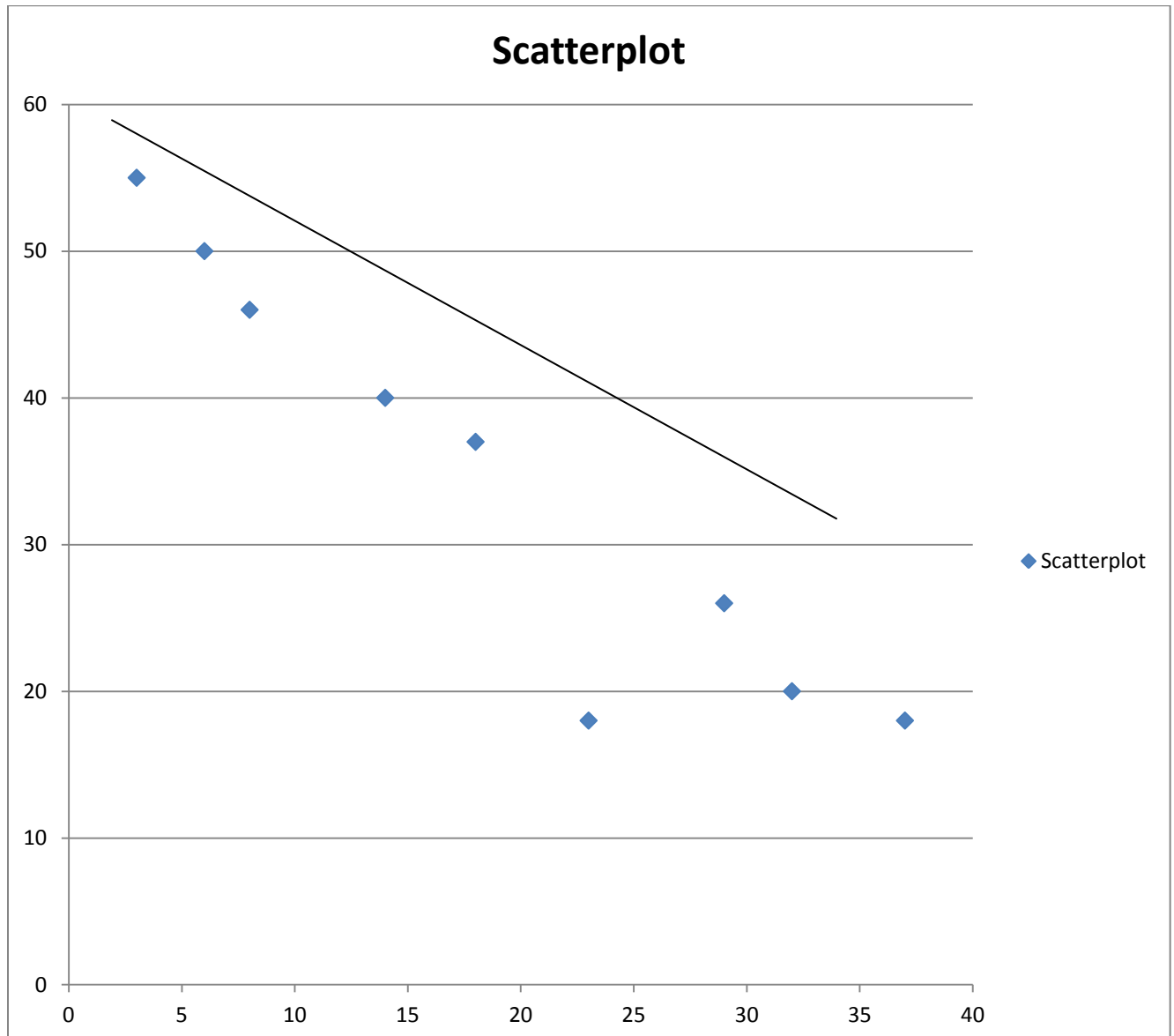
13. True

14. False

10.8 Use a Scatterplot to Interpret Data

Answers

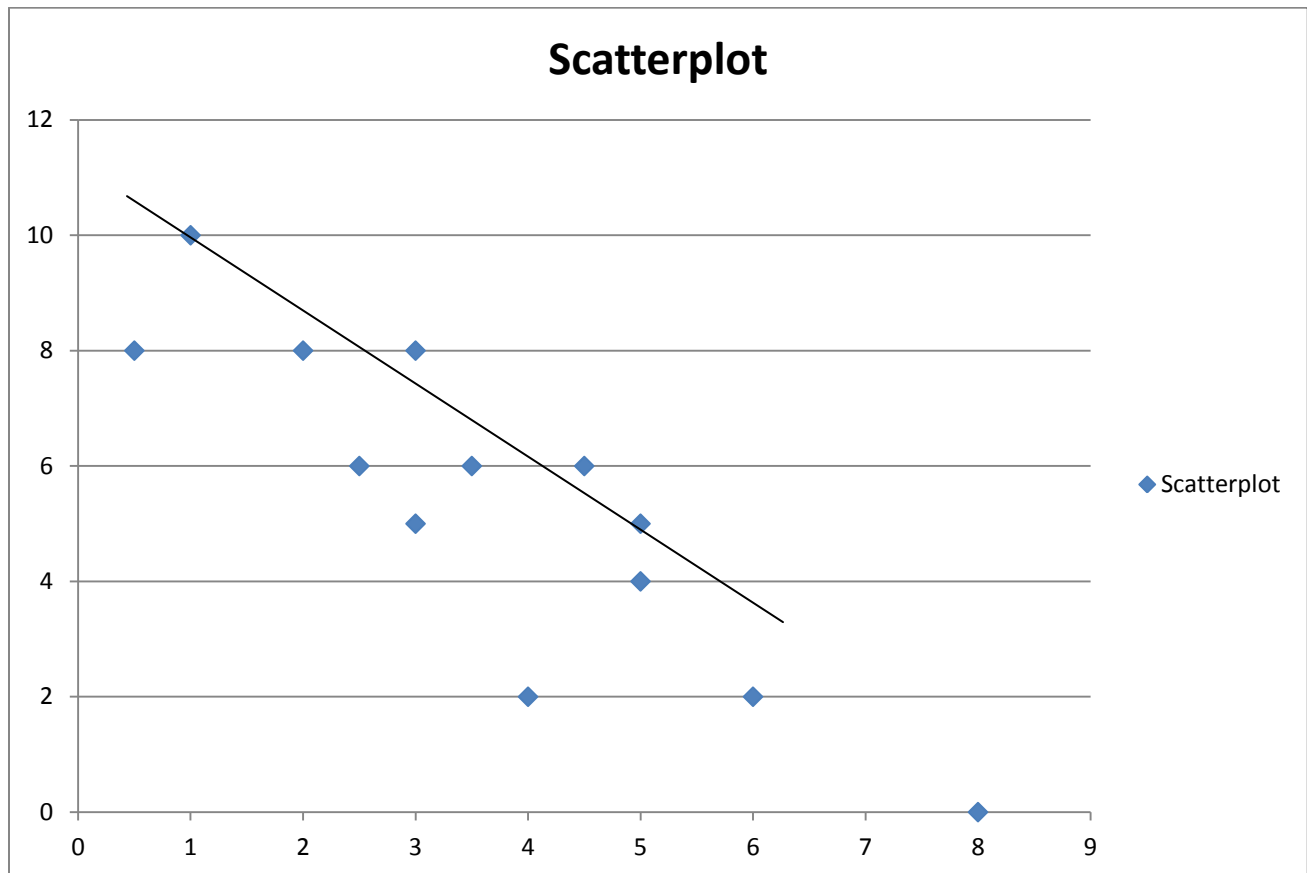
1. Negative
2. No correlation
- 3.



4. See line on scatterplot above.

5. Negative correlation

6.



7. See line on scatterplot above.

8. Negative

9. Approximately 9

10. The x values in a table

11. The y values in a table

12. When there is a positive connection between the x and y values

13. When there is a negative connection between the x and y values

14. When there isn't a relationship between the x and y values

15. The values in a data set.

10.9 Understanding Misleading Statistics

Answers

- | | |
|-----------------------------------|--|
| 1. True | 2. True |
| 3. False | 4. False |
| 5. False | 6. True |
| 7. True | 8. True |
| 9. True | 10. Years 2001 – 2006 aren't represented, the intervals are too small. |
| 11. Wide bars – they are not even | 12. Answers vary |
| 13. Values aren't even. | 14 – 17 Answers vary. |

10.10 Using Data Displays

Answers

1. Data collected in numerical form
2. Data collected in categories
3. Scatterplot
4. It depends on what the data represents.
5. Scatterplot
6. Box and Whisker plot
7. The data of a box and whisker plot organized into four quartiles or sections around the median.
8. Box and Whisker
9. Line graph
10. Line graph
11. The average value in a data set.
12. The middle value in a data set
13. The value that occurs the most times in a data set.
14. Conclusion 1
15. Conclusion 1

10.11 Understanding Bias

Answers

- | | | |
|--------------------------------|-----------------|-------------------------------------|
| 1. Yes | 2. No | 3. Yes |
| 4. Yes | 5. Yes | 6. Yes |
| 7. Yes | 8. Yes | 9. Only a small survey was sampled. |
| 10. Yes: 12 out of 80 | 11. No | 12. 12 out of 80 |
| 13. Needed systematic sampling | 14. Convenience | 15. Yes |

10.12 Understanding Survey Data

Answers

1. When data is collected due to a series of questions that are asked of a group or population.
2. When data is collected in no certain order.
3. When the same number of people are surveyed in specific groups.
4. When there is a consistent system to collecting the data in a survey.
5. The method of collected data is based on convenience and not a system.
6. People choose to participate or not in a survey.
7. Systematic
8. Systematic
9. Stratified
10. Self – selected
11. random
12. Systematic
13. Self – selected
14. Stratified
15. Random

10.13 Interpreting Data

Answers

1. Very dissatisfied 13 – 19%
Dissatisfied 18 – 24%
Satisfied 38 – 44%
Very satisfied 19 – 25%
2. 71,400
3. 139,400
4. 74,800
5. 54,400
6. The largest group of people are satisfied.
7. Four Seasons 35 – 45%
Hilton 15 – 25%
Marriott 5 – 13%
Holiday Inn 27 – 37%
8. 134
9. 84
10. Approx. 34
11. 168
12. Most want the Four Seasons
13. Good season, growth in attendance at games
14. New football stadium has nothing to do with the data represented.
15. Author is biased and wants a new football stadium is trying to use volleyball stats to justify the new stadium.

11.1 Using Tree Diagrams

Answers

1. 6	2. 9	3. 12	4. 8	5. 18
6. 12	7. 15	8. 18	9. 24	10. 24
11. 18	12. 18	13. 36	14. 36	15. 48

11.2 Calculating Outcomes

Answers

1. 6	2. 18	3. 6	4. 8	5. 12
6. 180	7. 360	8. No – same number	9. 9	10. 18
11. 12	12. 18	13. $\frac{1}{8}$	14. $\frac{1}{2}$	15. $\frac{6}{4}$

11.3 Recognizing Permutations

Answers

1. 24	2. 360	3. 360	4. 40,320
5. 720	6. 24	7. 5,040	8. 60
9. 24	10. 6	11. 6	12. 24
13. 120	14. 720	15. 120	16. 5,040

11.4 Evaluating Permutations Using Permutation Notation

Answers

1. 42	2. 120	3. 120	4. 120	5. 504
6. 181,440	7. 990	8. 1,320	9. 30	10. 2, 184
11. 2,730	12. 7,920	13. 240	14. 5,040	15. 720

11.5 Recognizing Combinations

Answers

1. 15	2. 4	3. 20	4. 6	5. 210
6. 28	7. 455	8. 126	9. 10	10. 3
11. 6	12. 4	13. 10	14. 10	15. 5

11.6 Evaluating Combinations Using Combination Notation

Answers

1. 10	2. 6	3. 21	4. 35
5. 28	6. 15	7. 36	8. 126
9. 56	10. 1	11. 10	12. 10
13. 15	14. 20	15. 35	16. 45

11.7 Theoretical Probability

Answers

1. a. blue	b. 1 out of 5	c. 5	d. 1:5
2. a. red, green	b. 2 out of 5	c. 5	d. 2:5
3. a. purple, green, red, blue	b. 4 out of 5	c. 5	d. 4:5
4. a. 3, 4	b. 2	c. 6	d. 2:6 or 1:3
5. a. 3, 4, 5, 6	b. 4	c. 6	d. 4:6 or 2:3

11.8 Experimental Probability

Answers

1. 1, 2, 3	2. 3	3. 6	4. 3:6 or 1:2	5. 1, 6
6. 2	7. 6	8. 2:6 or 1:3	9. 1, 2, 3	10. 3
11. 12	12. 3:12 or 1:4	13. 31	14. 60	15. 31:60

11.9 Write and Compare Probabilities as Fractions, Decimals and Percents

Answers

- | | | | |
|-------------------|-----------------------|----------------------------------|---------------------------------|
| 1. $\frac{6}{25}$ | 2. .24 | 3. 24% | 4. $\frac{5}{25} = \frac{1}{5}$ |
| 5. .2 | 6. 20% | 7. $\frac{7}{25}$ | 8. $\frac{2}{25}$ |
| 9. .28 | 10. $\frac{12}{25}$ | 11. $\frac{5}{25} = \frac{1}{5}$ | 12. .2 |
| 13. 20% | 14. Red, green, white | 15. blue, yellow, white | 16. Red, blue, green |

11.10 Identify Overlapping, Disjoint and Complementary Events

Answers

- | | | |
|-----------------|---------------------------------|-------------------------------|
| 1. Disjoint | 2. Complementary | 3. They depend on each other. |
| 4. Disjoint | 5. Even numbers don't include 3 | 6. Overlapping |
| 7. Overlapping | 8. Complementary | 9. Disjoint |
| 10. Overlapping | 11. Complementary | 12. Complementary |
| 13. Disjoint | 14. Complementary | 15. Disjoint |

11.11 Calculate Odds Using Outcomes or Probability

Answers

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. 1:5 | 2. 4:5 | 3. 3:3 | 4. 4:2 | 5. 2:4 |
| 6. 3:3 | 7. 3:3 | 8. 1:9 | 9. 2:8 | 10. 3:7 |
| 11. 5:5 | 12. 9:1 | 13. 8:2 | 14. 2:8 | 15. 3:7 |

11.12 Recognize Independent and Dependent Events

Answers

- | | | |
|-----------------|-----------------|-----------------|
| 1. Independent | 2. Dependent | 3. Independent |
| 4. Independent | 5. Dependent | 6. Dependent |
| 7. Dependent | 8. Independent | 9. Dependent |
| 10. Dependent | 11. Independent | 12. Dependent |
| 13. Independent | 14. Independent | 15. Independent |

11.13 Understanding Conditional Probability

Answers

- | | | | | |
|-----------|------------|------------|------------|-------------------|
| 1. $1/11$ | 2. $4/33$ | 3. $3/165$ | 4. $3/14$ | 5. $2/7$ |
| 6. $7/30$ | 7. $1/10$ | 8. $1/40$ | 9. $1/3$ | 10. $\frac{1}{2}$ |
| 11. $2/3$ | 12. $1/36$ | 13. $1/12$ | 14. $1/18$ | 15. $5/6$ |

11.14 Understanding Geometric Probability

Answers

- | | | | |
|------------|----------|-----------|----------|
| 1. 12.5% | 2. 25% | 3. 31.25% | 4. 34.4% |
| 5. 7 miles | 6. 16.7% | 7. 25% | 8. 8% |
| 9. 83% | 10. 20% | 11. 40% | 12. 60% |
| 13. 80% | 14. 100% | 15. 60% | 16. 40% |

11.15 Use Simulations to Explore Experimental Probability

Answers

Answers will vary based on experiments.

12.1 Recognize and Identify Monomials, Binomials and Trinomials

Answers

- | | | | |
|--------------|---------------|----------------|--------------|
| 1. Monomial | 2. Binomial | 3. Binomial | 4. Trinomial |
| 5. Monomial | 6. Polynomial | 7. Trinomial | 8. Trinomial |
| 9. Monomial | 10. Trinomial | 11. Polynomial | 12. Monomial |
| 13. Binomial | 14. Trinomial | 15. Monomial | 16. Binomial |
| 17. Binomial | | | |

12.2 Write and Classify Polynomials in Standard Form

Answers

- | | | |
|---|--|---|
| 1. $5x^3 + 4x^2 + x - 1$, 3 rd | 2. $3y^2 - 2y + 9$, 2 nd | 3. $3y^3 + 9y^2 + 8y + 8$, 3 rd |
| 4. $6y^4 - 2y^3 + y^2 + y$, 4 th | 5. $-16y^6 - 18$, 6 th | 6. $2x^2 + 3x + 9y + 8$, 2 nd |
| 7. $8y^4 - 7y^3 - 3y^2 + y$, 4 th | 8. $-2x^3 + 8x^2 - x - 3$, 3 rd | 9. $-2y^3 - 3y^2 + 2y + 9$, 3 rd |
| 10. $6x^2 - 2x - 8y + 14$, 2 nd | 11. $8x^4 - 5x^3 + 3x^2 + 4x$, 4 th | 12. $-2y^3 + 3y^2 + y - 8$ |
| 13. $2y^3 + 8y^2 - 8y + 9$, 3 rd | 14. $-12m^7 + 6m^5 + m^4 - 6m - 8$, 7 th | 15. $-x^3y^2 + 5x^3y + 8xy$, 3 rd |

12.3 Simplify Polynomials by Combining Like Terms

Answers

- | | | |
|--------------------------|--------------------------|-----------------------------|
| 1. $-12x + 11$ | 2. $3x - 5$ | 3. $-2x + 11y$ |
| 4. $10x^2 - 2x + 14$ | 5. $-6xy - x - 4$ | 6. $-2x - 2y$ |
| 7. $2x - 10y + 14$ | 8. $2xy - 15x - 7$ | 9. $-10x + 11y - 2$ |
| 10. $3x^2 + 8x - 3y - 7$ | 11. $-4xy + 6x + 7y + 9$ | 12. $-2x - 14y + 7$ |
| 13. $-4y^3 + 7y^2 - 8$ | 14. $q^2 - 6q$ | 15. $5n^2m^2 - 2n^2m + 11n$ |

12.4 Evaluate Polynomial Expressions

Answers

- | | | | | |
|--------|--------|---------|--------|--------|
| 1. 56 | 2. 54 | 3. 32 | 4. 32 | 5. 60 |
| 6. 36 | 7. 34 | 8. 51 | 9. 34 | 10. 93 |
| 11. 28 | 12. 75 | 13. 196 | 14. 64 | 15. 9 |

12.5 Adding Polynomials

Answers

- | | | |
|---------------------------------|------------------------------------|------------------------|
| 1. $4x^2 + 10x - 19$ | 2. $-4x^4 - 3x^3 + 5x + 14$ | 3. $10x^3 - 5x^2 + 7x$ |
| 4. $10x^2 + 8x + 15$ | 5. $15x^2 - 12x + 6$ | 6. $-2y^2 - 2x + 1$ |
| 7. $14x^2 + 15x - 3$ | 8. $-5x^2 + 7x - 19$ | 9. $12x^2 + 6x + 7y$ |
| 10. $-8xy + 11x - 29$ | 11. $14x^2 + x - 7y - 2$ | 12. $12x - 3$ |
| 13. $x^4 - x^3 + 9x^2 - 2x + 3$ | 14. $6x^2y^2 + 4x^2y + 3x^2 + 2xy$ | 15. $9xy - 12x - 3$ |

12.6 Subtracting Polynomials

Answers

- | | | |
|----------------------------|------------------------------|----------------------------|
| 1. $3x^2 + 19x + 2$ | 2. $x^2 + 6x - 1$ | 3. $-7xy + 9x + 11$ |
| 4. $2y^2 + 11y - 7$ | 5. $-x + 3y - 4$ | 6. $4x^2 - 2x - 7$ |
| 7. $5x + 14y + 9$ | 8. $18x^3 - x^2 + 12x + 11$ | 9. $5x + 9y - 6$ |
| 10. $16x^2 + 2x + 11y - 3$ | 11. $15x^2 + 19xy + 3x + 20$ | 12. $6y^3 - 2y^2 - 3y + 3$ |
| 13. $-2m^2 + 9m - 23$ | 14. $-2z^2 - 8z - 3$ | 15. $2x^2 - 8xy + 7$ |

12.7 Multiplying Monomials

Answers

- | | | | | |
|--------------|----------------|------------------|-----------------|----------------------|
| 1. $30x^2y$ | 2. $-30x^3y$ | 3. $-10x^3y^3$ | 4. $45xyz$ | 5. $36x^2y^3z$ |
| 6. $12y^9$ | 7. $-25x^7y^3$ | 8. $-24y^{10}$ | 9. $10x^4y^4$ | 10. $-48a^3b^3$ |
| 11. $42x^2y$ | 12. $-150x^5$ | 13. $-270x^3y^6$ | 14. $-40x^6y^5$ | 15. $-128a^2bc^2d^2$ |

12.8 Recognize and Apply the Power of a Product Property

Answers

- | | | | | |
|----------------|--------------------|-------------------|----------------------|------------------------|
| 1. $36x^{10}$ | 2. $169d^{10}$ | 3. $-27p^9q^{12}$ | 4. $10,000x^4y^8$ | 5. $-1024t^{15}$ |
| 6. $324r^4s^6$ | 7. $8r^{33}s^9t^6$ | 8. $49x^4$ | 9. $8y^6$ | 10. $125x^6$ |
| 11. $144y^6$ | 12. $3125x^{25}$ | 13. $8x^6y^6z^3$ | 14. $27x^{12}y^9z^6$ | 15. $-125x^{12}y^9z^9$ |

12.9 Recognize and Apply the Power of a Quotient Property

Answers

- | | | |
|------------------------|---------------------|-----------------------------------|
| 1. $16/81$ | 2. $3/27$ or $1/9$ | 3. $49/64$ |
| 4. $16/625$ | 5. $343k^3/-8y^3$ | 6. $27x^3/-8y^3$ |
| 7. $256x^4/-27y^4$ | 8. $3125y^5/32z^5$ | 9. $1y^4/16z^4$ |
| 10. $32x^5y^5/-z^{25}$ | 11. $4x^4y^8/-z^6$ | 12. $343x^6y^3/-8z^9$ |
| 13. $x^9y^6/-z^9$ | 14. x^{55}/y^{45} | 15. $-3125x^{15}/243h^{10}j^{40}$ |

12.10 Recognize and Apply the Power of a Power Property

Answers

- | | | | |
|--------------------------|--------------------------------|--------------------|--------------------------|
| 1. x^4 | 2. y^{12} | 3. x^6y^{12} | 4. $x^{12}y^{12}$ |
| 5. $y^{36}z^{12}$ | 6. $x^{15}y^{20}$ | 7. $a^{15}b^9$ | 8. $a^{20}b^{20}$ |
| 9. $a^9b^{18}c^{21}$ | 10. x^{36} | 11. y^{54} | 12. $a^8b^{32}c^{36}$ |
| 13. $x^{20}b^{15}c^{15}$ | 14. $a^{24}b^{18}c^{42}d^{48}$ | 15. $a^{15}b^{55}$ | 16. $x^{30}y^{50}z^{60}$ |

12.11 Multiplying Binomials

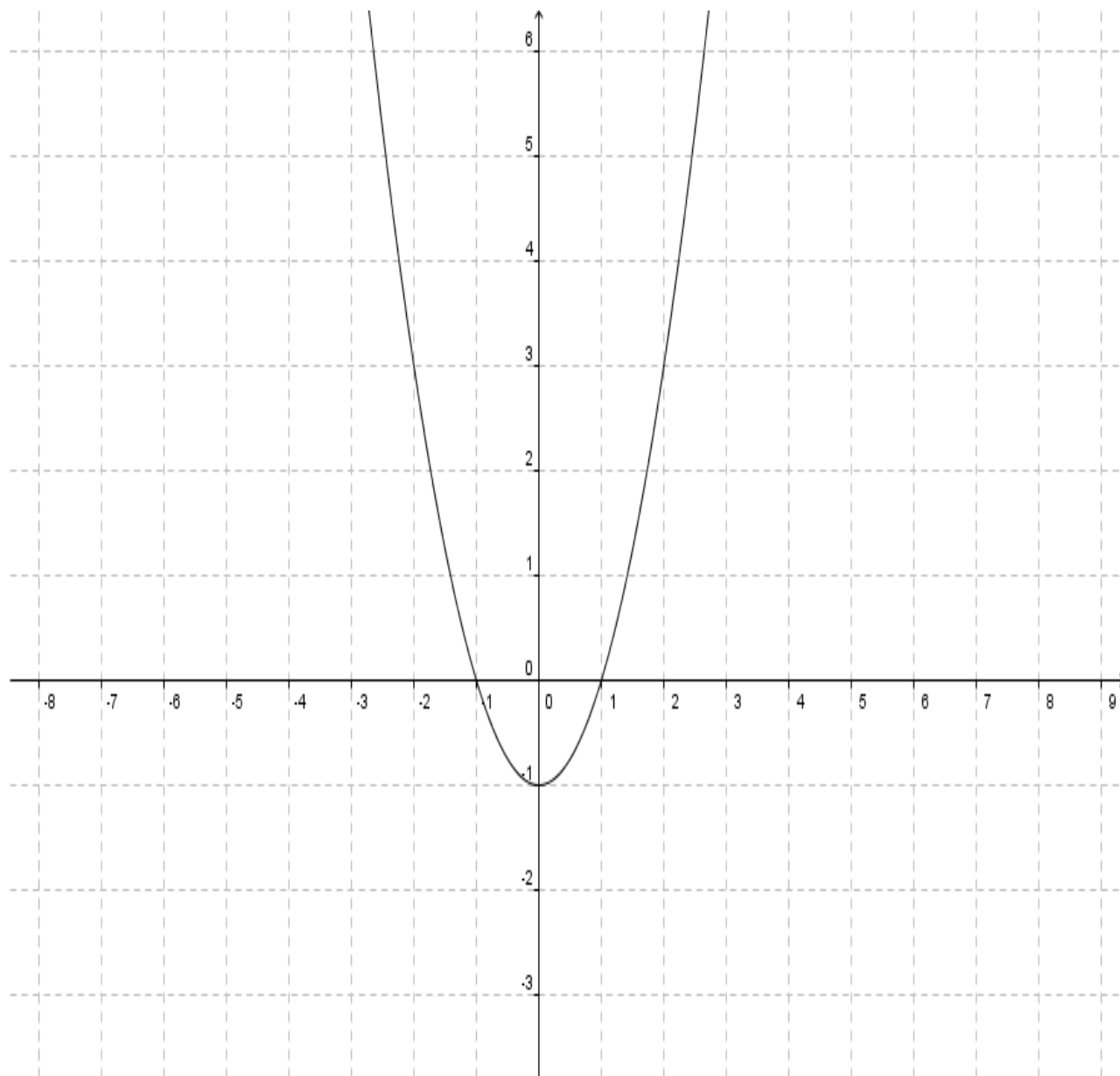
Answers

- | | |
|-------------------------|-------------------------------------|
| 1. $x^2 + 8x + 15$ | 2. $x^2 - 8x + 15$ |
| 3. $x^2 - 9$ | 4. $x^2 - 6x - 16$ |
| 5. $18x^3 + 12x^2 - 6x$ | 6. $10x^2 - 27xy - 28y^2$ |
| 7. $4x^2 - 36x + 81$ | 8. $4d^2 + 7d - 2$ |
| 9. $25x^2 - 49$ | 10. $8b^3 - 20b^2c^2 - 15c^3 + 6bc$ |
| 11. $5p^2 + 32p + 12$ | 12. $-42y^3 - 38y^2 - 8y$ |
| 13. $x^6 + 6x^4 + 9x^2$ | 14. $2x^2 - 7x - 4$ |
| 15. $15x^2 + 8x - 27$ | 16. $x^2 + 10x + 25$ |

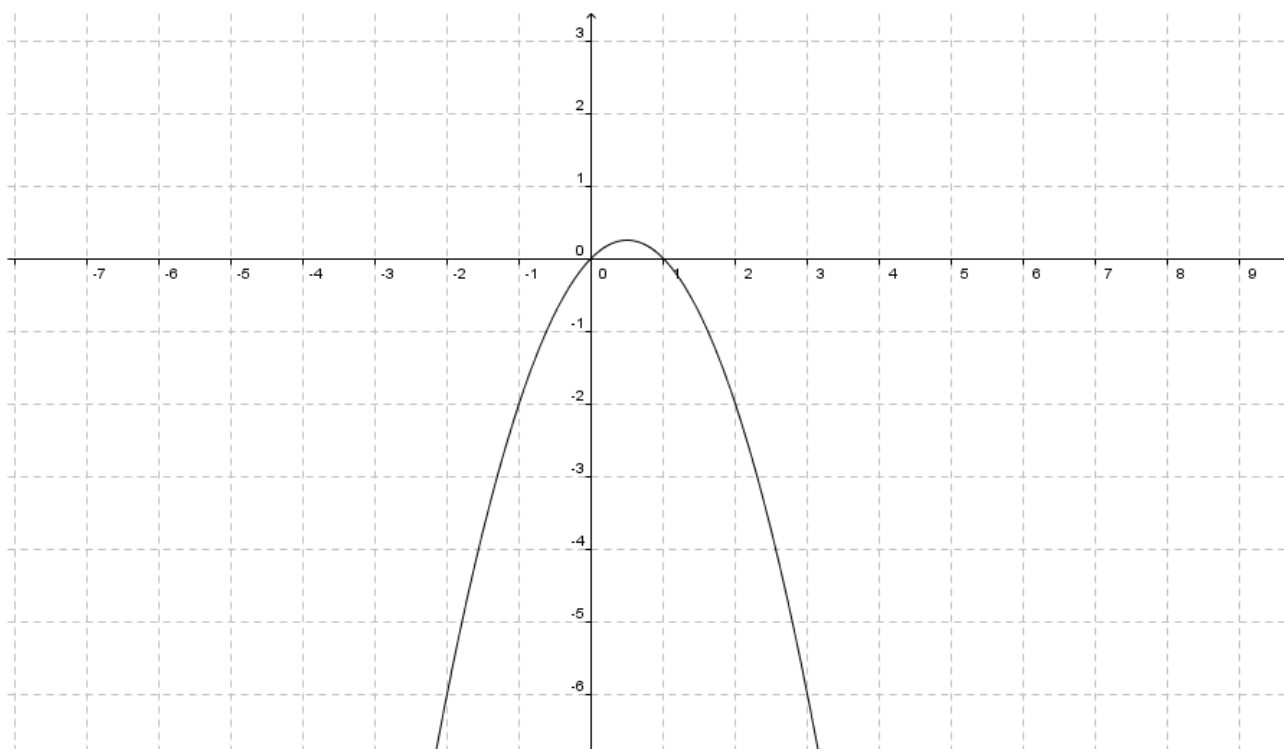
12.12 Understanding the Graphs of Parabola

Answers

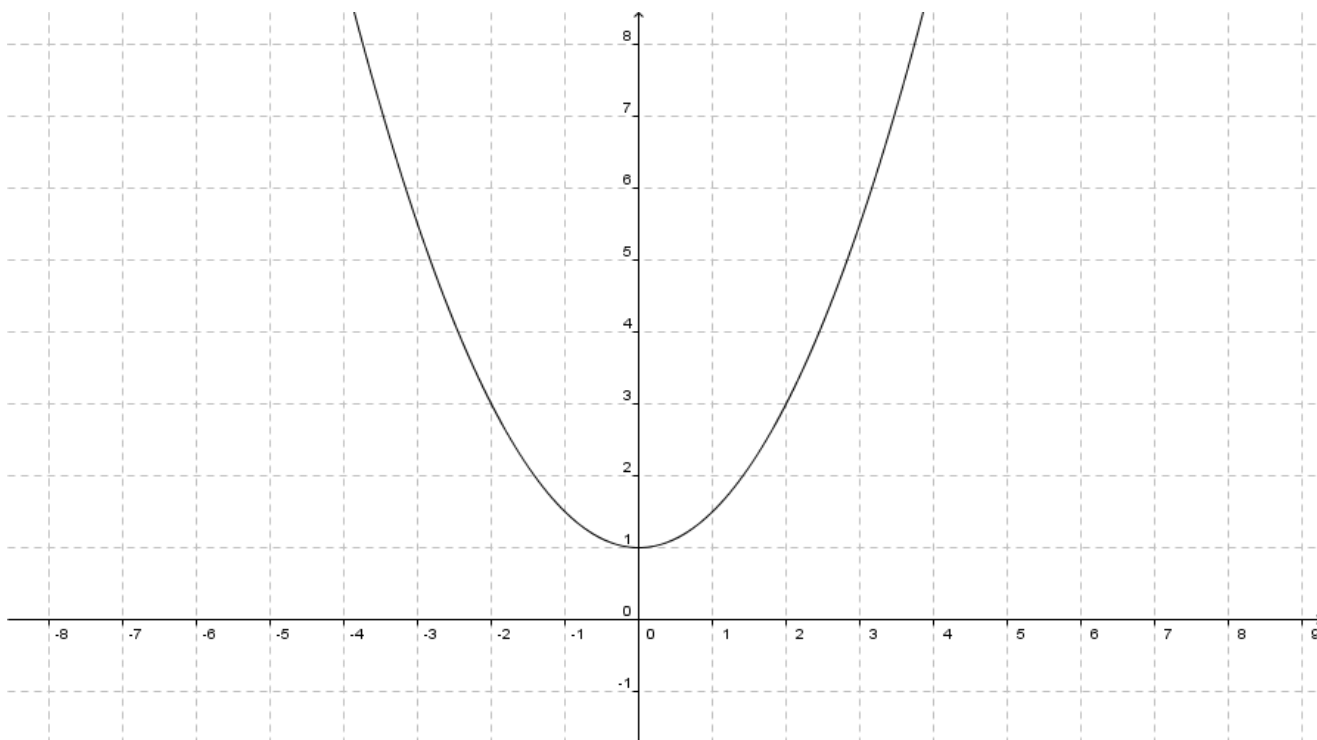
1. True 2. True 3. False 4. True 5. True 6. C
7. B 8. A 9. (0,2) 10. (0,-3) 11. (0, -2) 12. Graph C
13. $y = x^2 - 1$



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



15. $y = \frac{1}{2}x^2 + 1$



12.13 Understanding the Equations of Parabolas

Answers

- | | | |
|---------------------|--------------------------------------|---------------------|
| 1. True | 2. True | 3. Upward |
| 4. Downward | 5. Top or bottom point in a parabola | 6. True |
| 7. True | 8. False | 9. True |
| 10. The y intercept | 11. False | 12. False |
| 13. $Y = -2x^2 + 3$ | 14. $Y = 2x^2 - 5$ | 15. $Y = -3x^2 + 5$ |

12.14 Recognizing Quadratic Functions

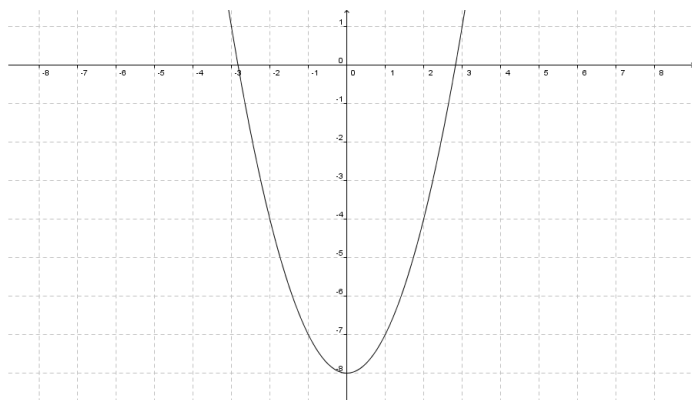
Answers

1. Yes, $a = 3$, $b = -1$, $c = 4$
2. Yes, $a = 2$, $b = 4$
3. Yes, $a = 2$, $b = 0$, $c = 2$
4. yes, $a = 2$, $b = 0$, $c = 4$
5. Yes, $a = \frac{1}{2}$, $b = 0$, $c = -3$
6. Yes, $a = 2$, $b = 0$, $c = 4$
7. yes, $a = 1$, $b = 0$, $c = 1$
8. No
9. Yes, $a = 4$, $b = 0$, $c = 4$
10. yes, $a = 2$, $b = -3$, $c = 4$
11. Yes, $a = 1$, $b = 4$, $c = -18$
12. No
13. Yes, $a = 3$, $b = -4$, $c = -1$
14. No
15. Yes, $a = 2$, $b = 0$, $c = -3$

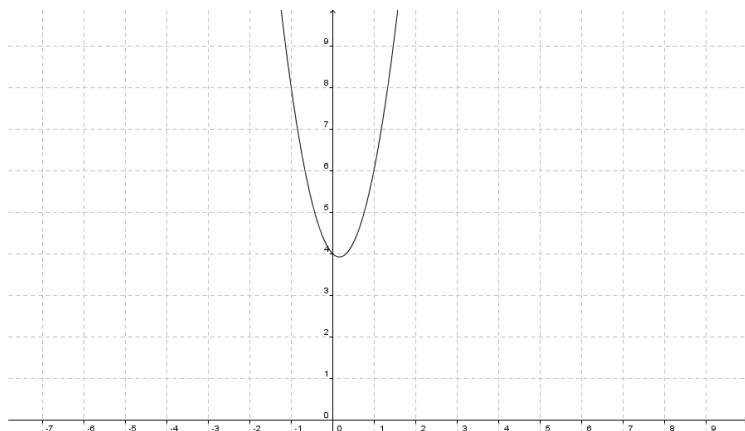
12.15 Evaluating Quadratic Functions

Answers

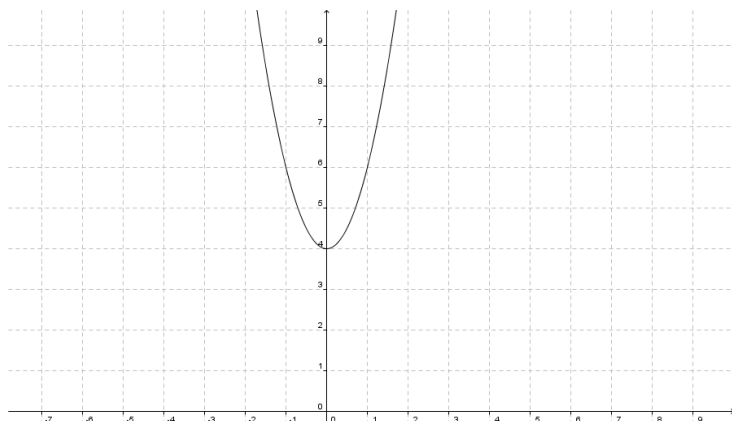
1.



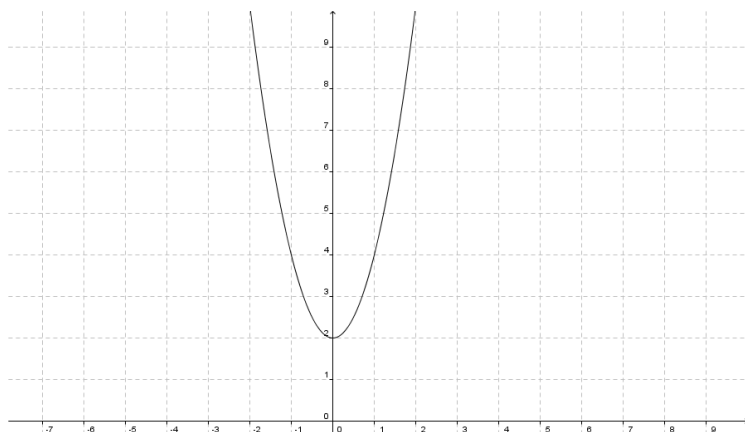
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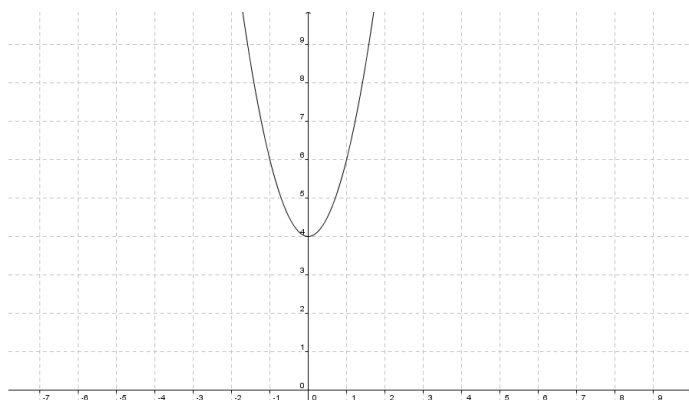
3.



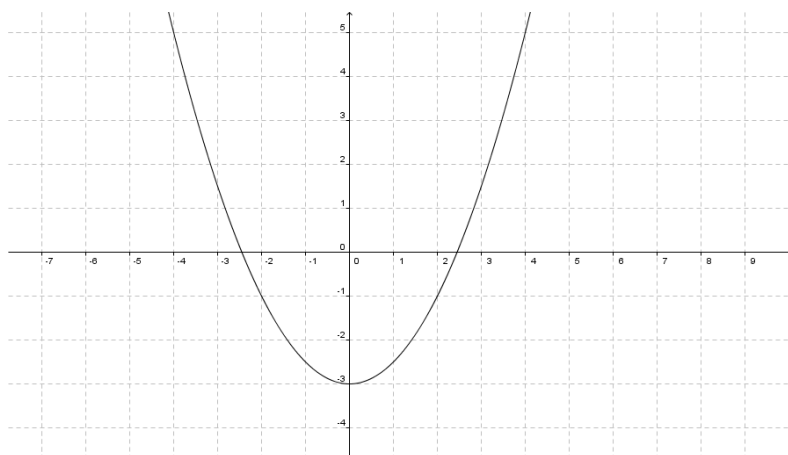
4.



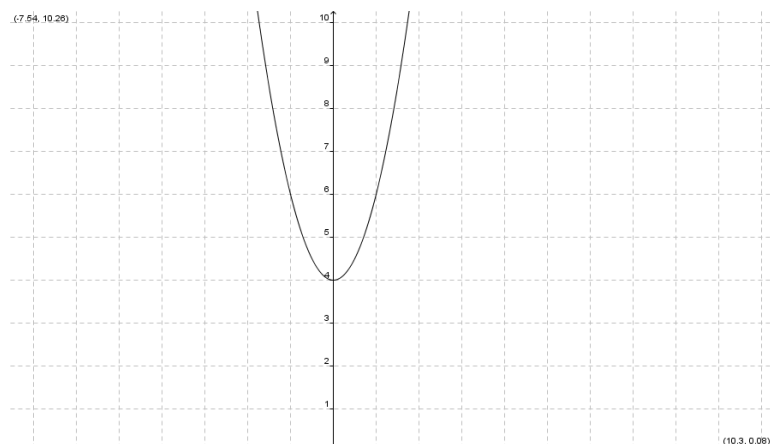
5.



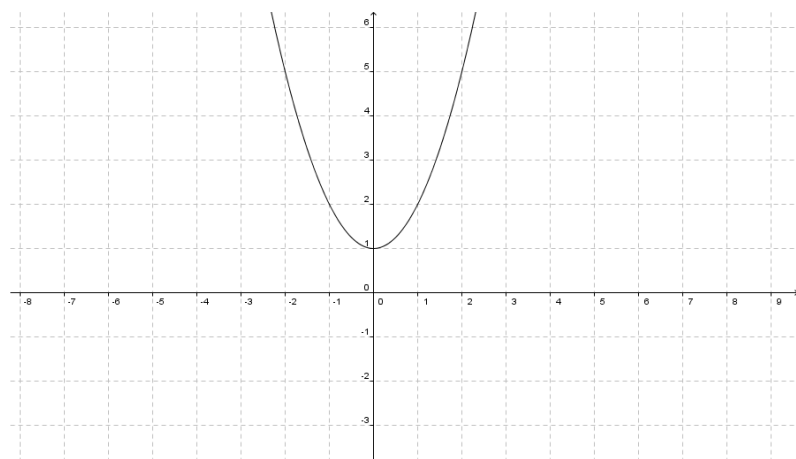
6.



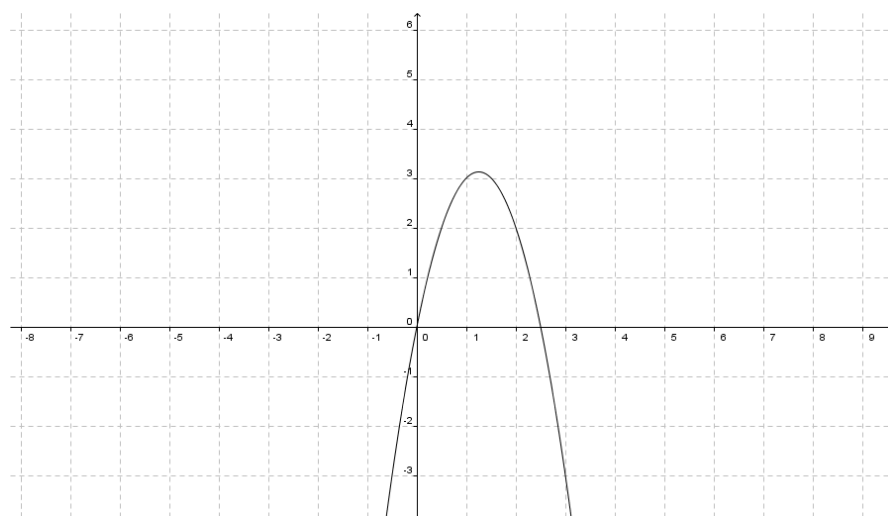
7.



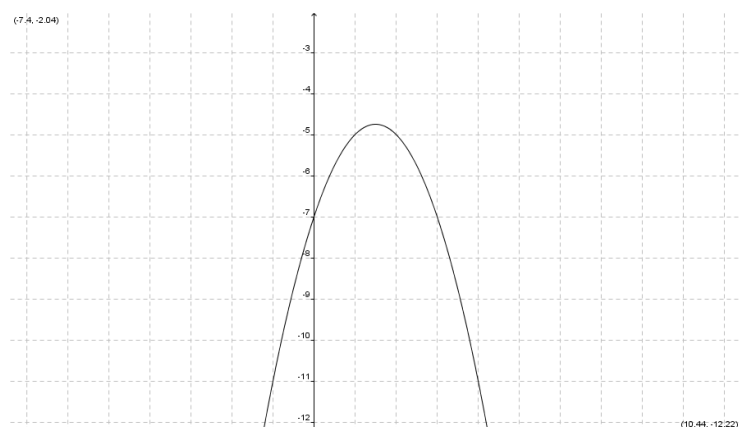
8.



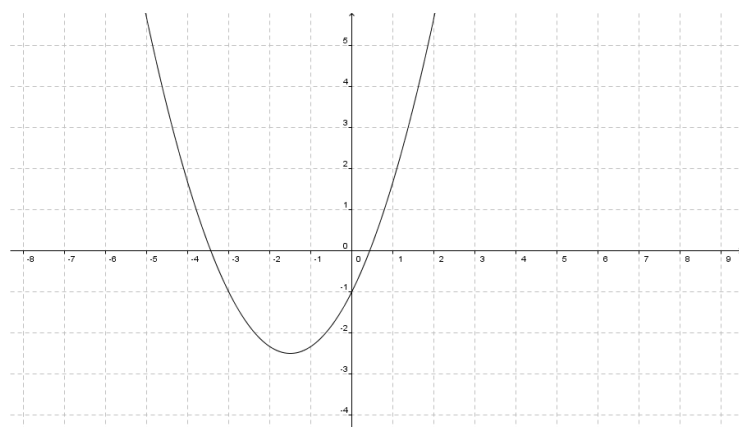
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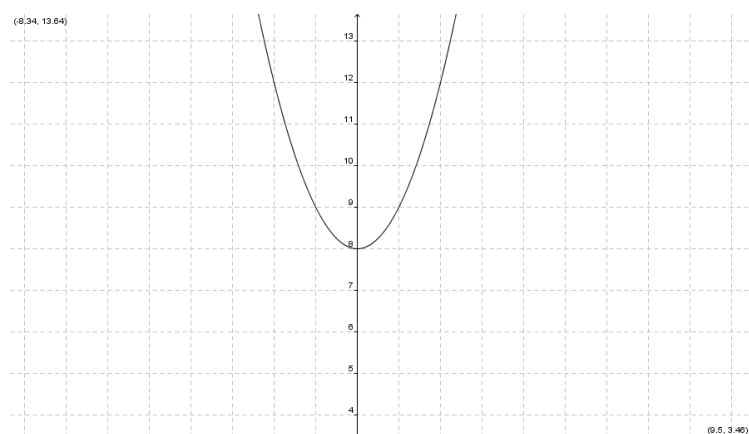
10.



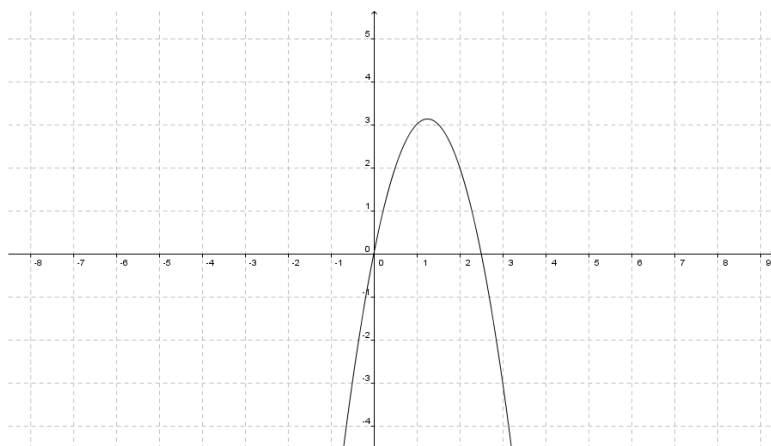
11.



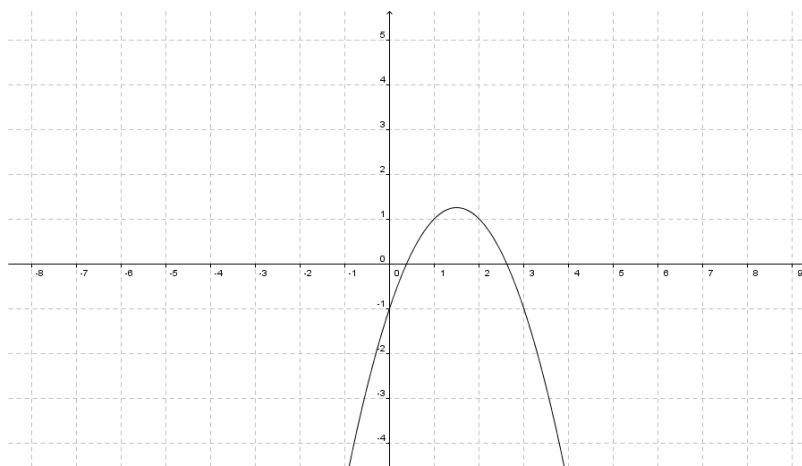
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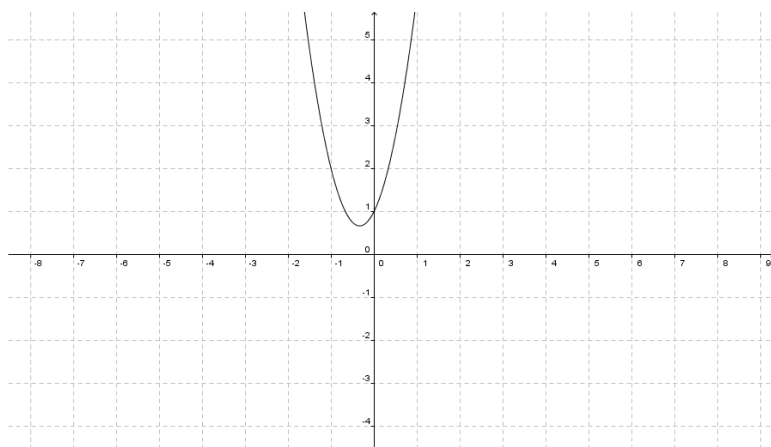
13.



14.



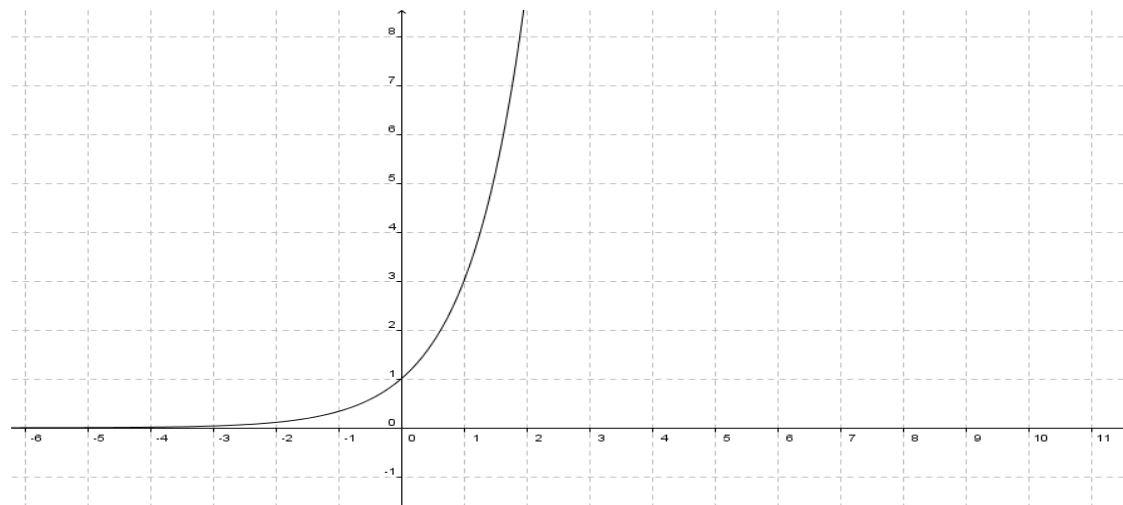
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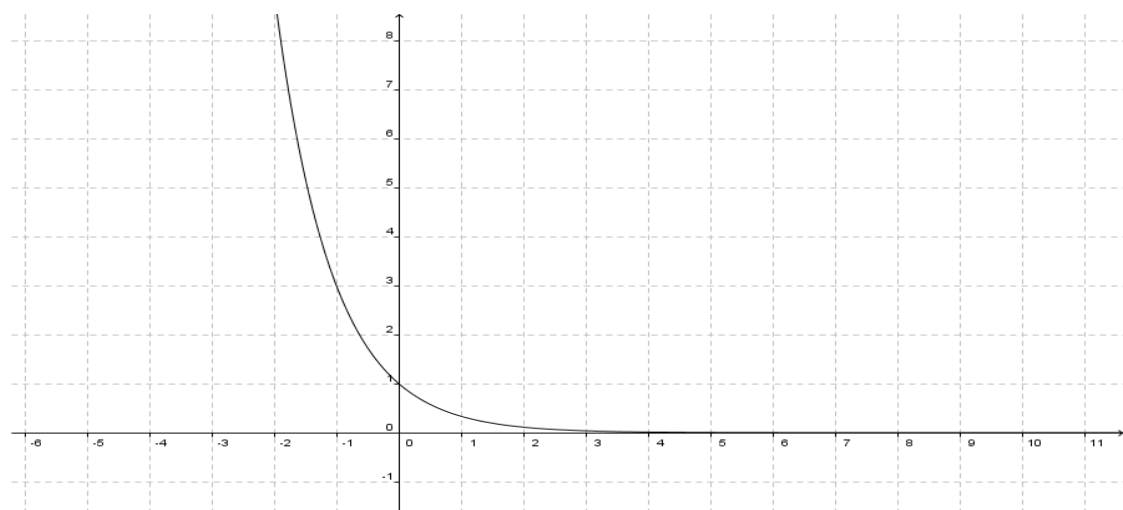
12.16 Exponential Functions

Answers

- | | | | |
|----------------|----------------|----------------|----------------|
| 1. Exponential | 2. Exponential | 3. Exponential | 4. Exponential |
| 5. Exponential | 6. Exponential | 7. Exponential | |
| 8. | | | |



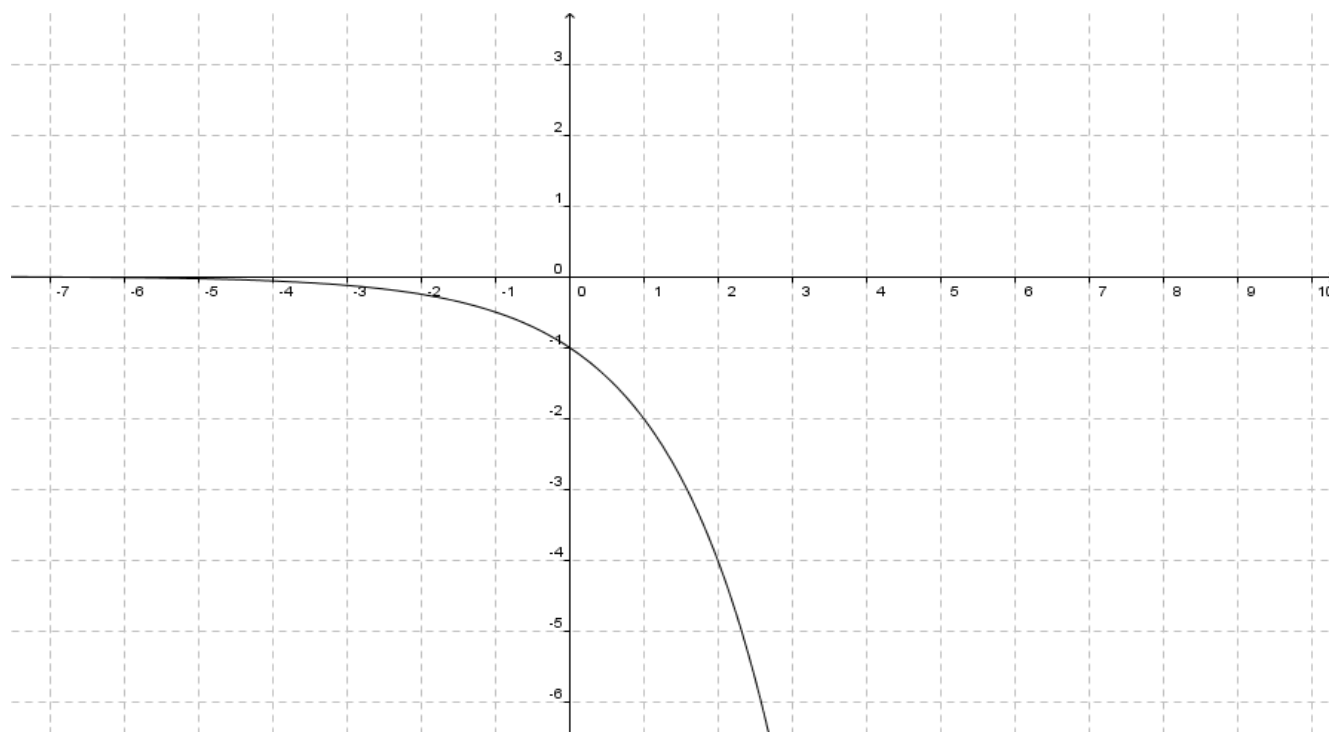
9.



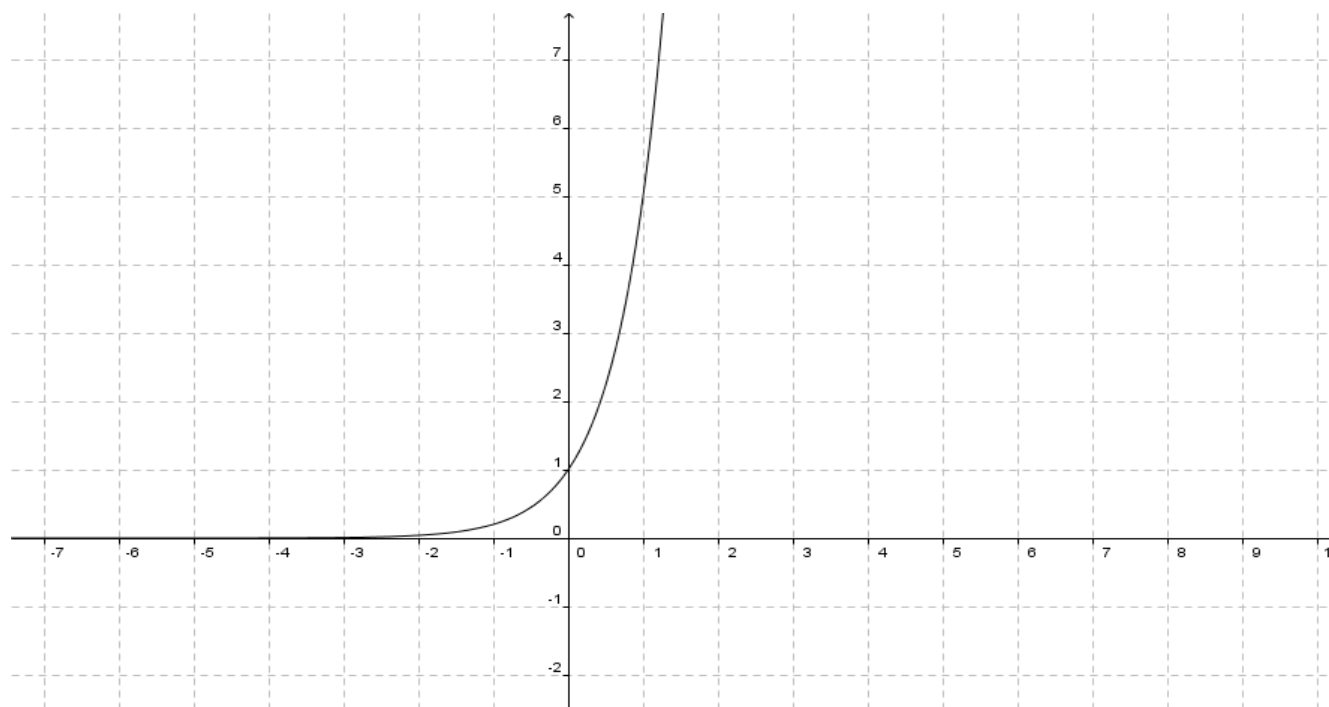
10. An Exponential graph

11. An exponential graph

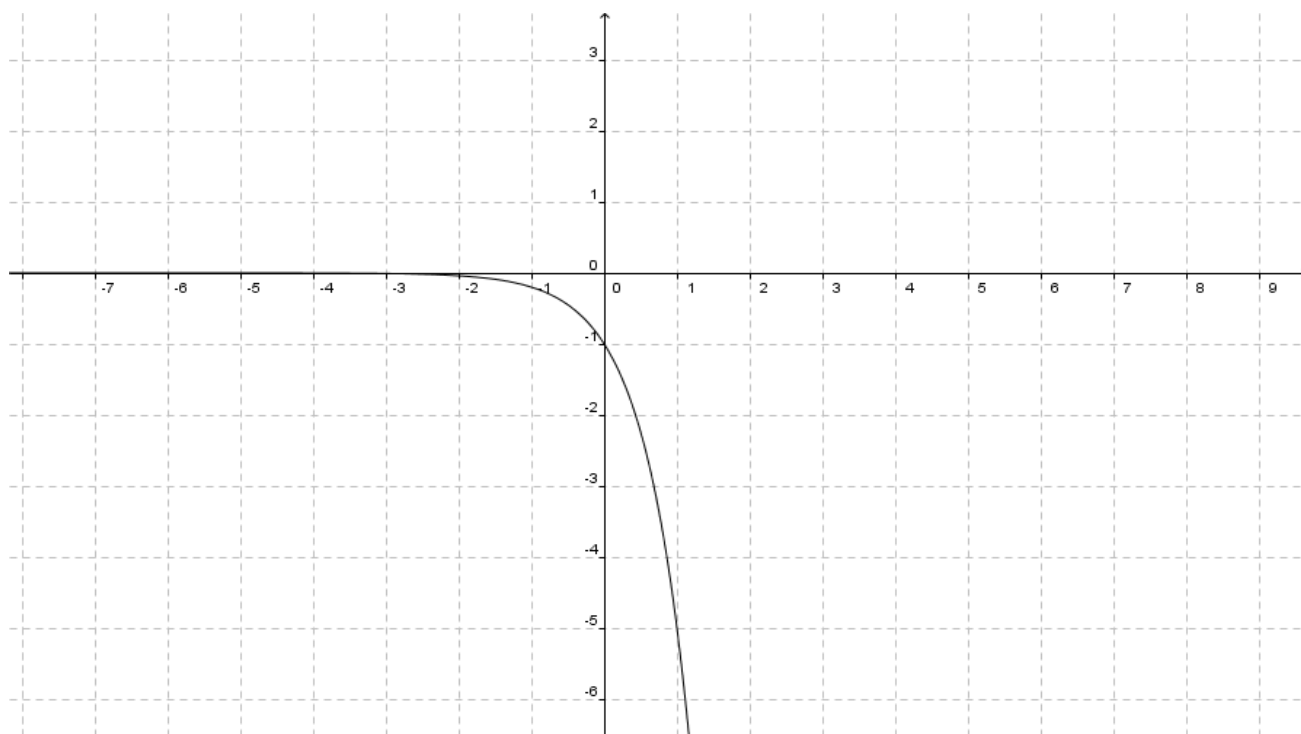
12.



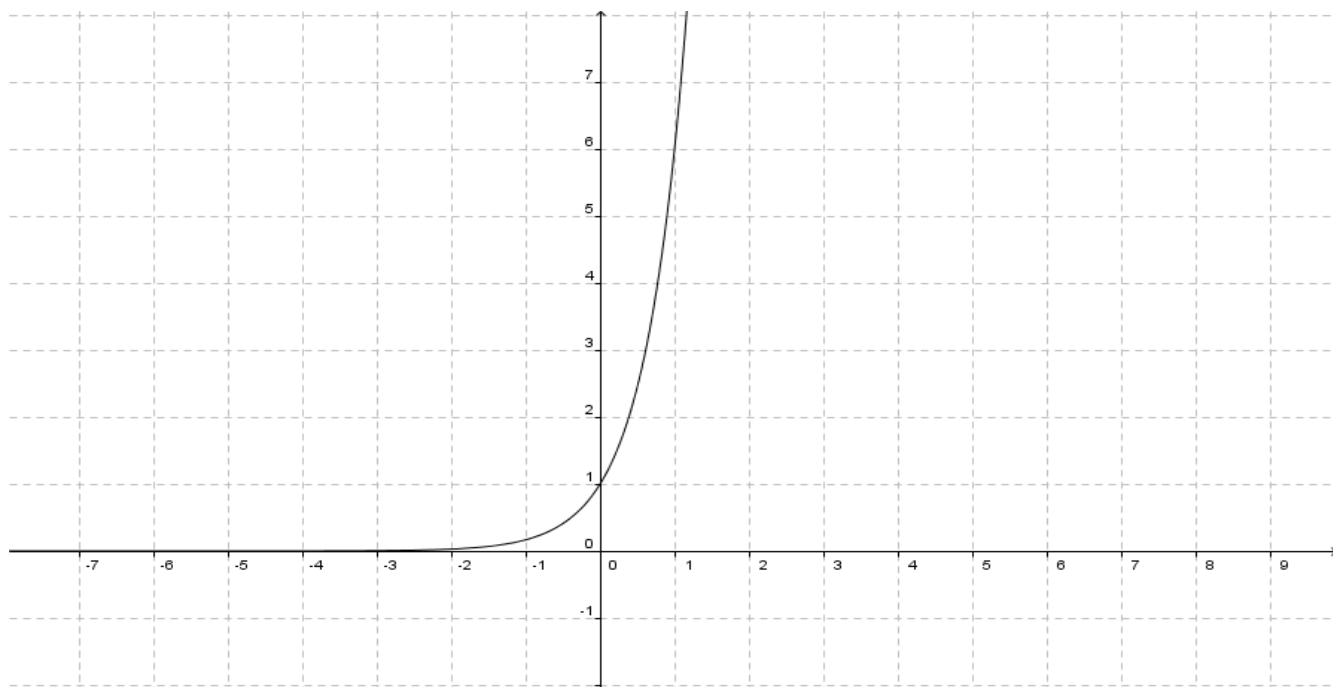
13.



14.



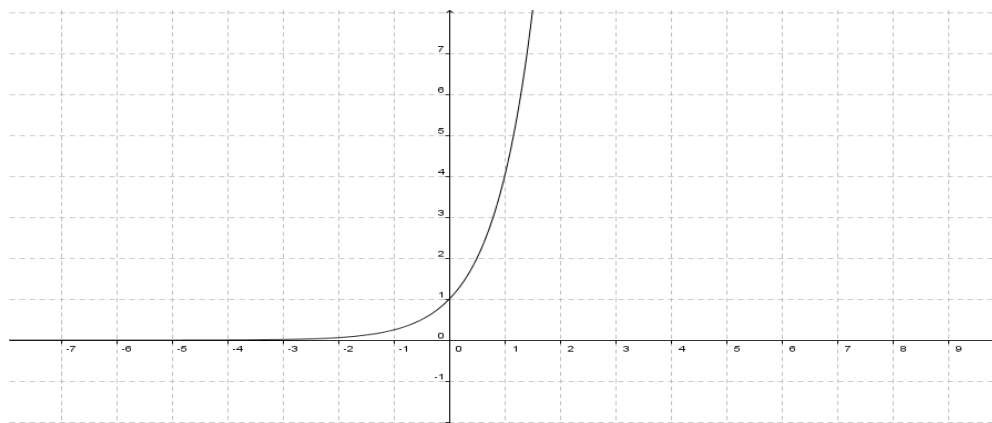
15.



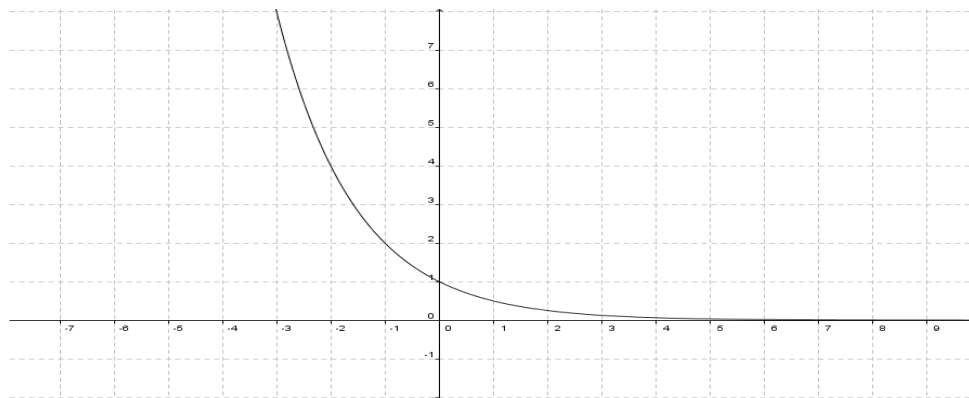
12.17 Exponential Growth and Decay

Answers

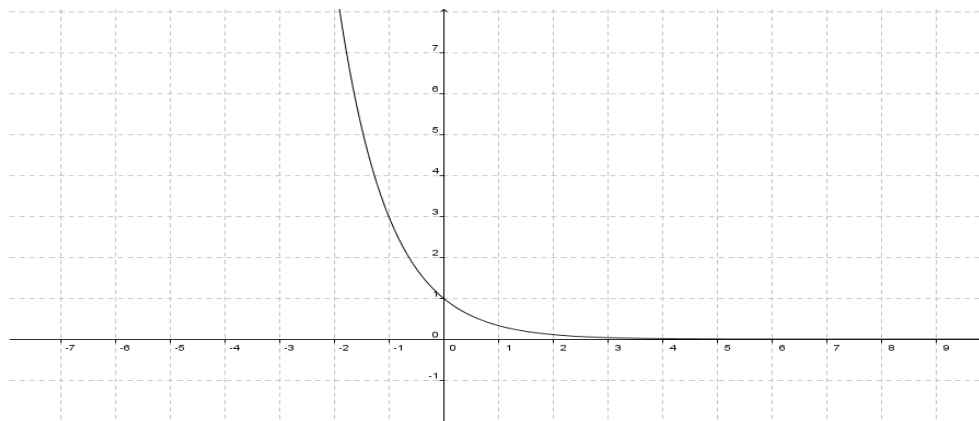
1. Growth



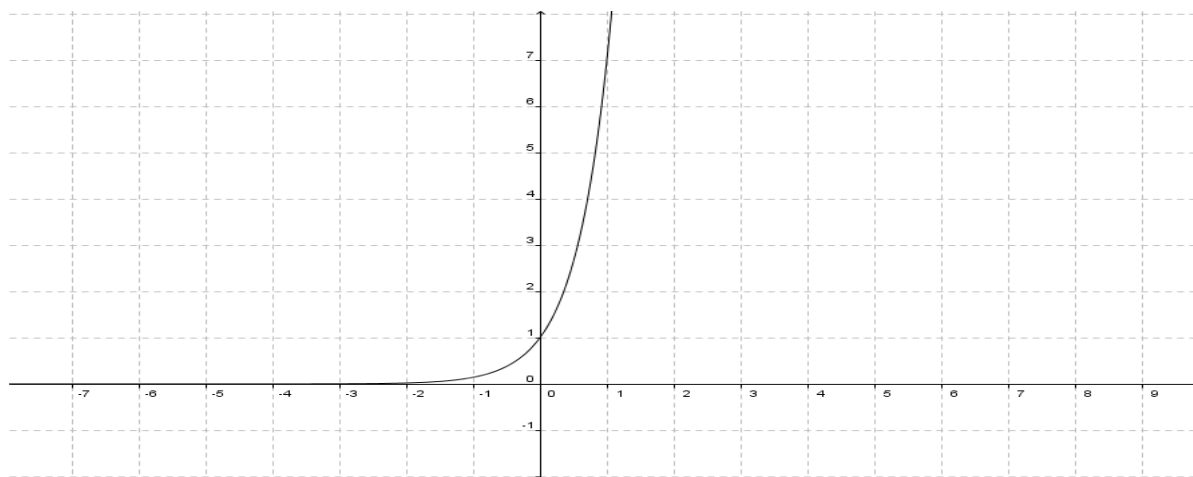
2. Decay



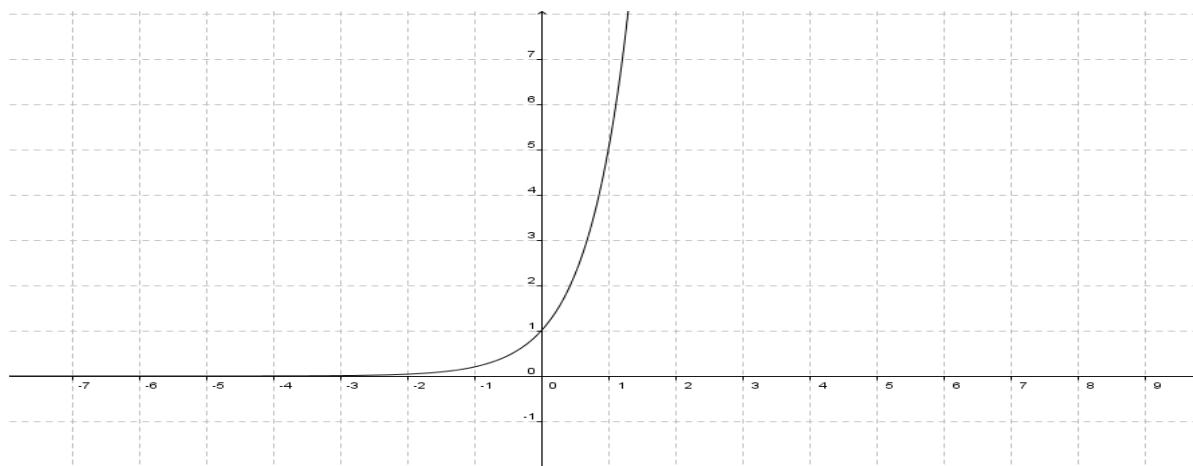
3. Decay



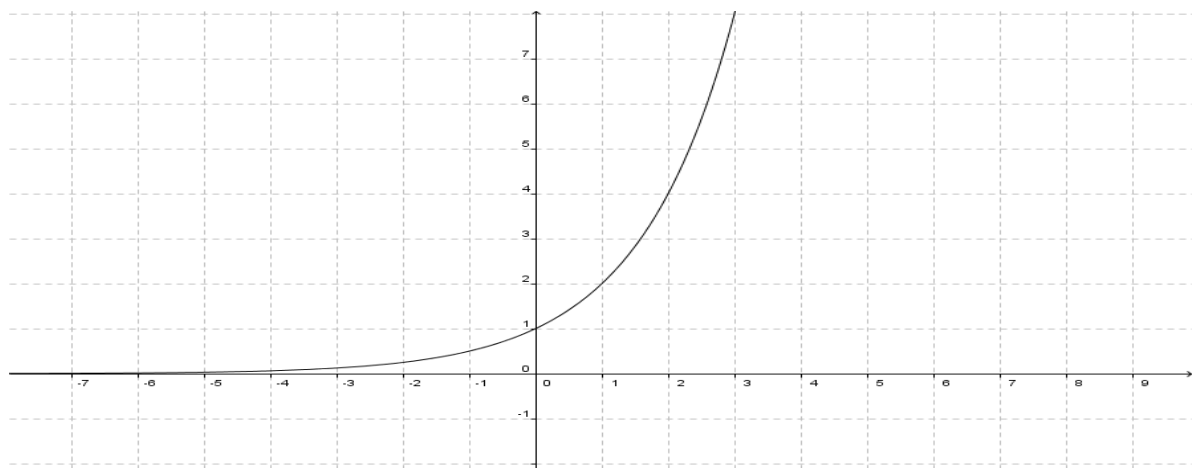
4. Growth



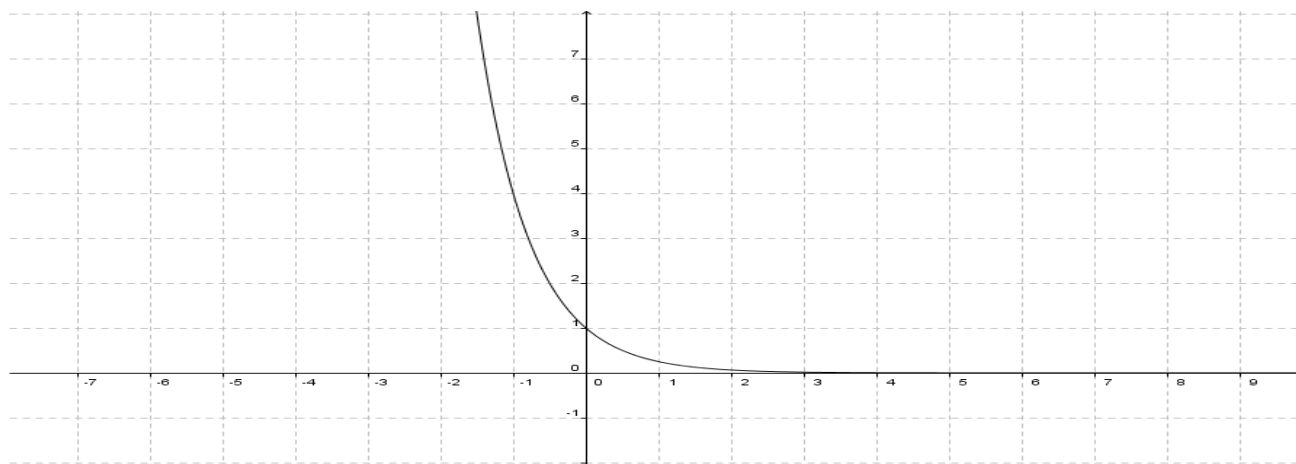
5. Growth



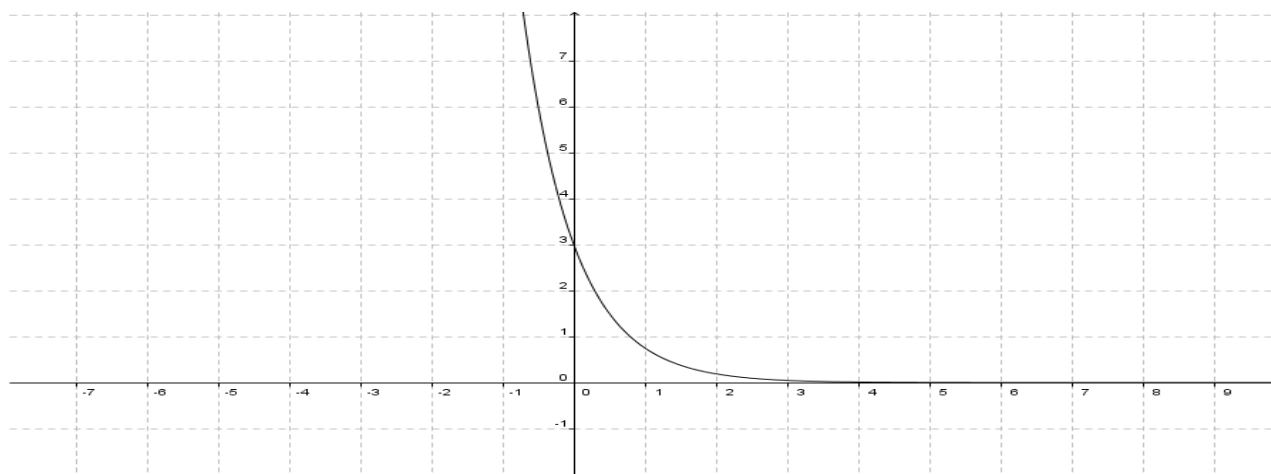
6. Growth



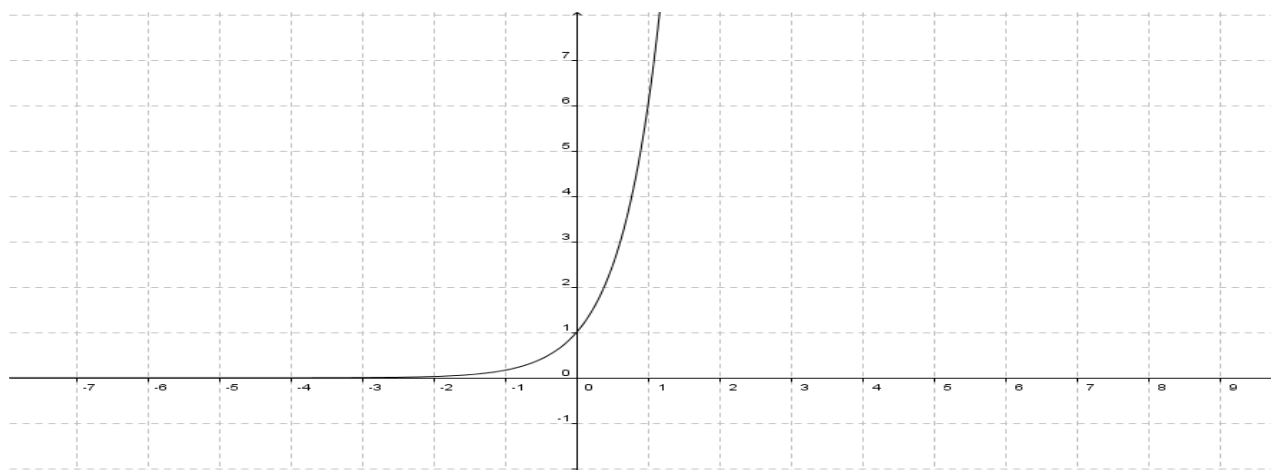
7. Decay



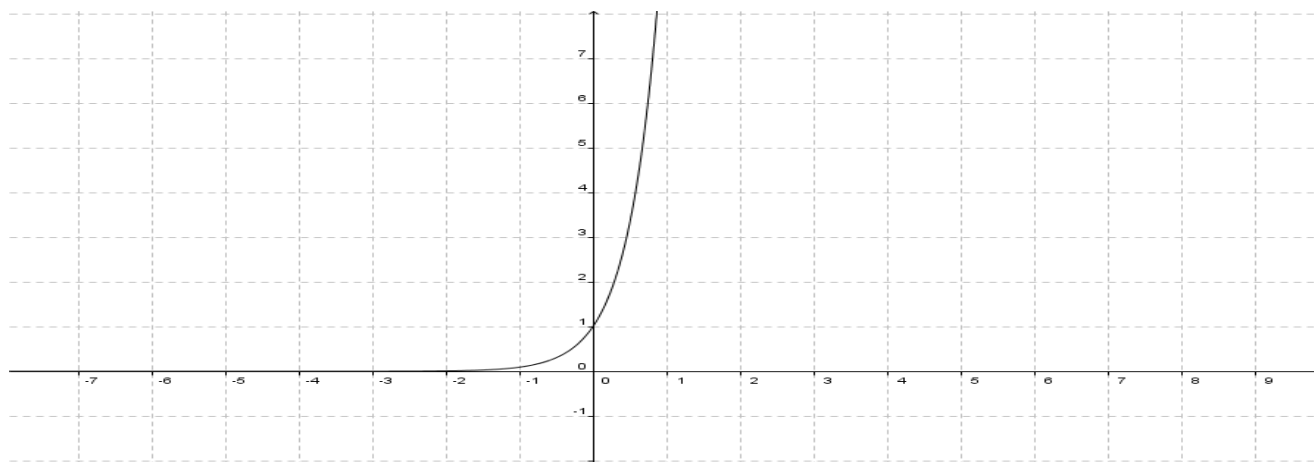
8. Decay



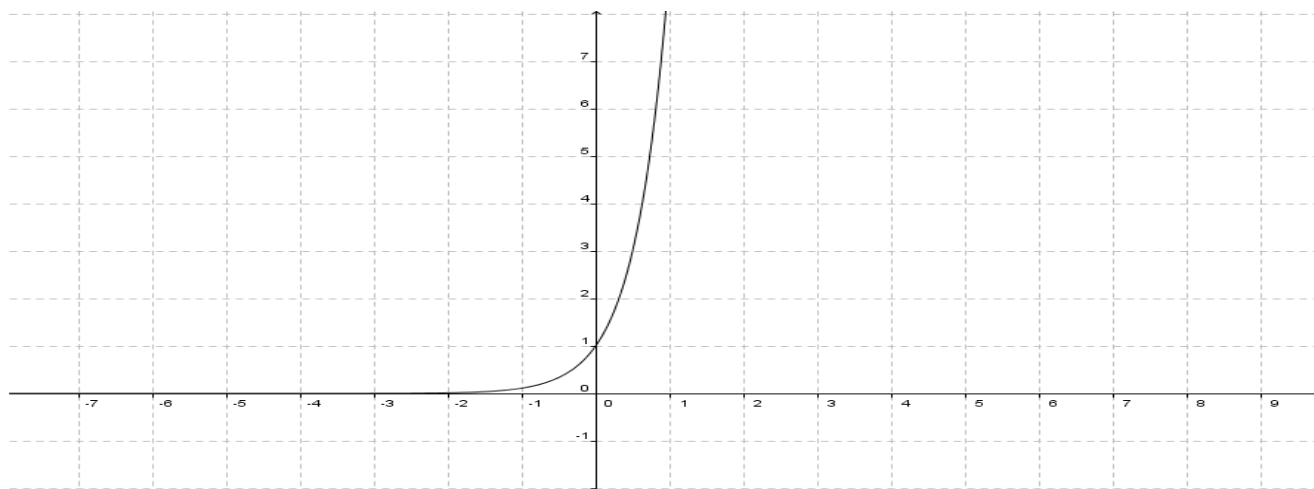
9. Growth



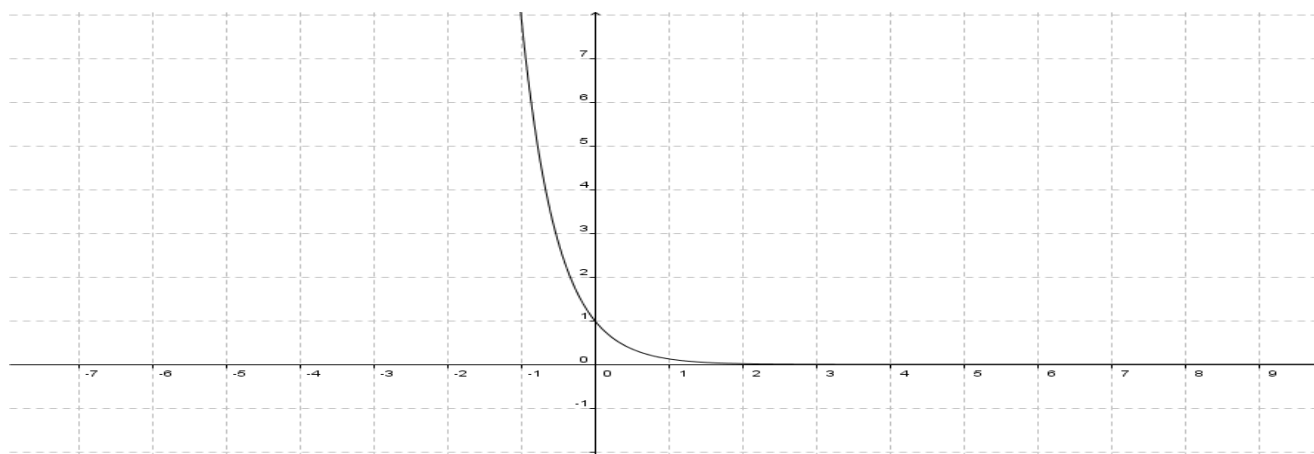
10. Growth



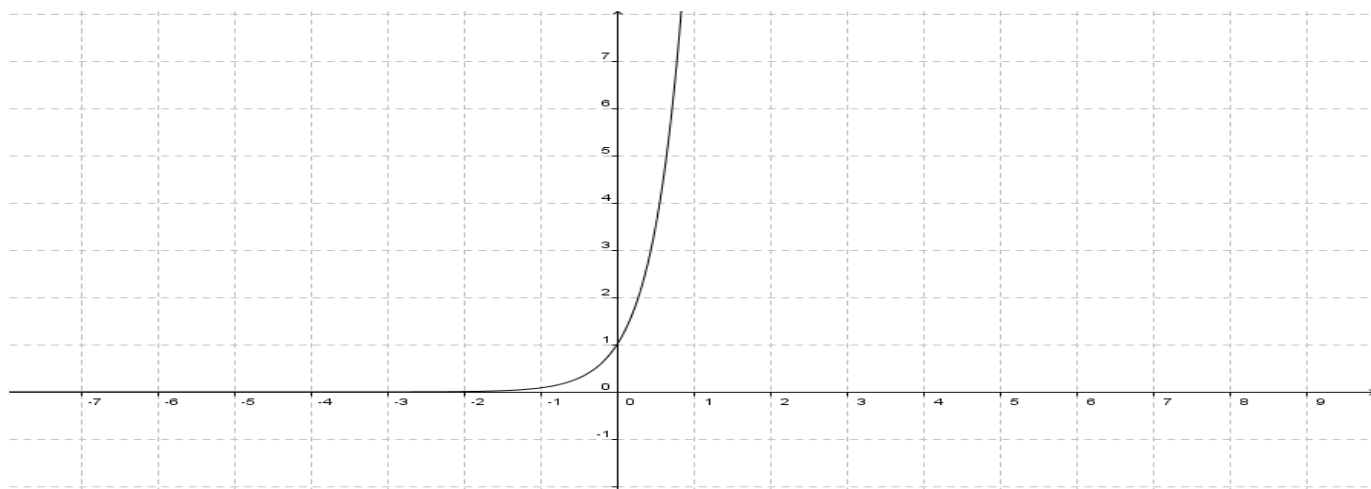
11. Growth



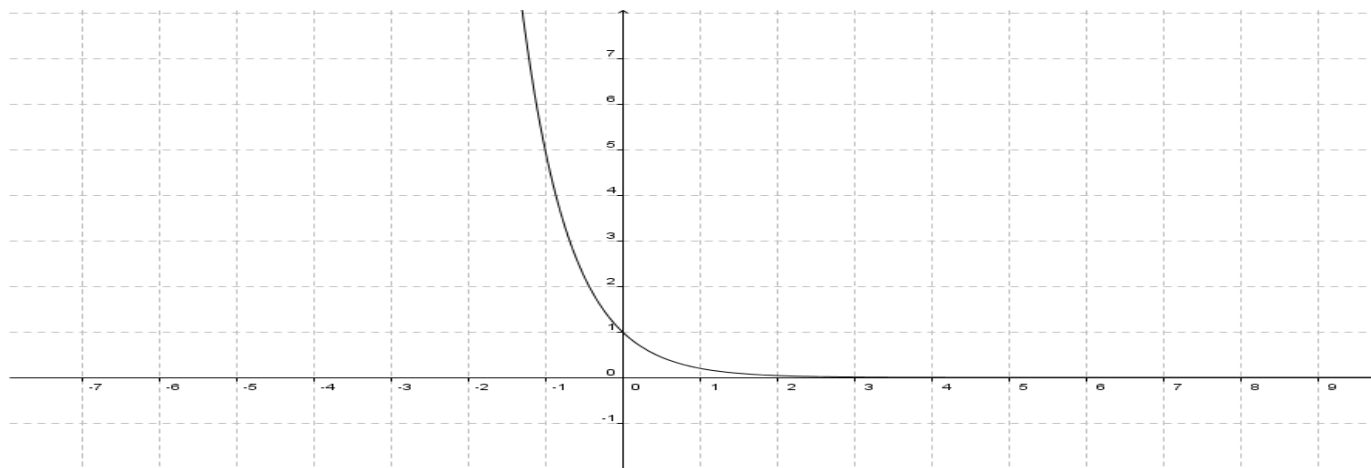
12. Decay



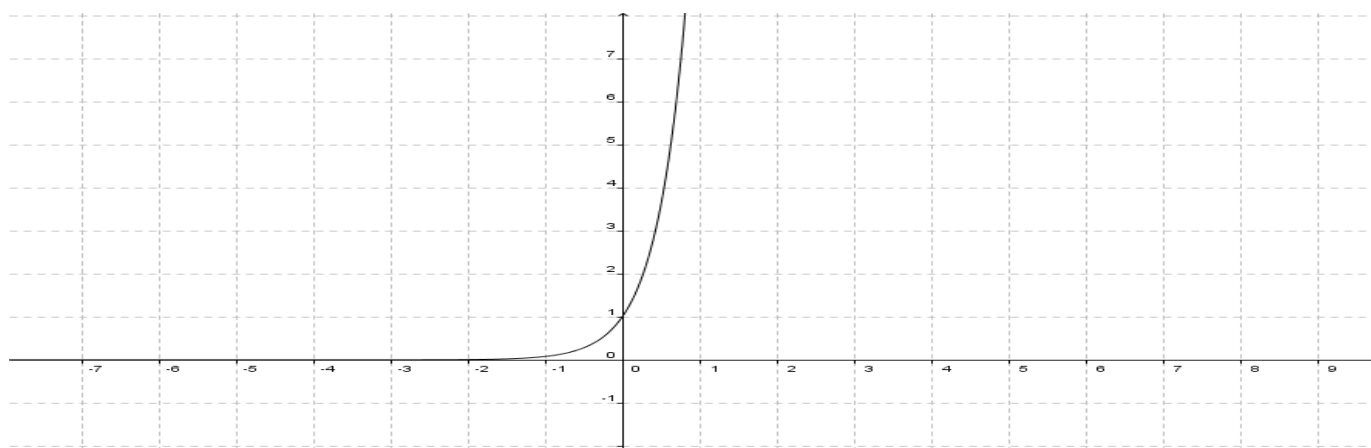
13. Growth



14. Decay



15. Growth



12.18 Arithmetic Sequences

Answers

- | | | |
|--------------------|---------------------|--|
| 1. $+ -2$ | 2. $+ .05$ | 3. $+3, +4, +5$ |
| 4. -3 | 5. -1 | 6. $+2$ |
| 7. $\times 3$ | 8. $\times 2$ | 9. $\times 2 - 1$ |
| 10. $\times 2 + 1$ | 11. Divided by 2 | 12. $\times 2, \times 3, \times 4$ |
| 13. $+3$ | 14. $+ \frac{1}{4}$ | 15. 1 whole, $1 \frac{1}{4}$, $1 \frac{1}{2}$ |

12.19 Geometric Sequences

Answers

- | | | |
|------------------------------|------------------------------|------------------------------|
| 1. -5 | 2. $\frac{1}{4}$ | 3. 2 |
| 4. 2 | 5. $\frac{1}{2}$ | 6. 2 |
| 7. 2 | 8. $\frac{1}{2}$ | 9. Arithmetic, $+3$ |
| 10. Geometric, $\frac{1}{3}$ | 11. arithmetic, -8 | 12. Arithmetic, -8 |
| 13. Arithmetic, $\times -10$ | 14. geometric, $\frac{1}{2}$ | 15. Arithmetic, divided by 3 |