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ANSWER KEY

FOR

Mastering the Georgia 6th Grade CRCT

in

Mathematics

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Chart of Standards

	Chapter	Diagnostic Test	Practice Test 1	Practice Test 2	Common Core
Standard	Number	Question #	Question #	Question #	Standards
Number and Operations					
M6N1a	1	46, 65	66	55, 56, 70	6.NS.4
M6N1b	1	30, 66, 68	34, 67	22, 45, 57	
M6N1c	1	69, 70	61, 62	51, 52	6.NS.4
M6N1d	1	7, 12	7, 14, 29	10, 15, 53	
M6N1e	1	15, 63, 64	60, 63	2, 27	
M6N1f	1, 2, 3	5, 16, 47, 62	13, 16, 21, 48	16, 18, 41	
M6N1g	1, 2, 3	2, 3, 6, 11, 22	6, 12, 38, 47, 58, 59	1, 20, 36, 40, 42	6.NS.1
Measurement					
M6M1	10	31, 42, 48, 49	15, 27, 28, 31	26, 29, 48, 49	6.RPR.3
M6M2a	10			6	
M6M2b	11, 12	9, 34	10, 50, 51	4	
M6M2c	11, 12	45	5		
M6M3a	12			59	CC.9-12.G.GMD.1
M6M3b	12	10, 17, 35	2	23	CC.9-12.G.GMD.1
M6M3c	12		1, 24		CC.9-12.G.GMD.1
M6M3d	12	18, 57	39, 41	5, 30, 33	
M6M4a	12	59			
M6M4b	12	33, 52		60	
M6M4c	12		18		
M6M4d	12	54	53	11, 34	
Geometry					
M6G1a	13	20	56	58	
M6G1b	13	55	55, 64		
M6G1c	4, 11	25, 43	3, 11, 35	14, 28, 35, 67	
M6G1d	4	8		25, 37	
M6G1e	4	4, 32, 44	4, 36, 65	13, 43	
M6G2a	12	53, 61		69	CC.9-12.G.MG(GMD).1
M6G2b	12		57	62	CC.9-12.G.MG(GMD).1
M6G2c	12	19	37, 40, 54	61	CC.9-12.G.MG(GMD).1
M6G2d	12	37	19, 43	31	CC.9-12.G.MG(GMD).1
Algebra					
M6A1	4	1, 36	23, 25	32, 47	
M6A2a	5	14, 26	9, 30	3	
M6A2b	4	38	44	17	6.RPR.3
M6A2c	4	23	26, 45	44, 46	6.RPR.3
M6A2d	4			9	6.RPR.3
M6A2e	7	21		63	6.RPR.3
M6A2f	4, 6, 7			12	6.RPR.3
M6A2g	4	13, 67	17		6.RPR.3
M6A3	6	28, 51	49, 52	38, 54, 68	

Chart of Standards – continued

Standard	Chapter Number	Diagnostic Test Question #	Practice Test 1 Question #	Practice Test 2 Question #	Common Core Standards
Data Analysis					
and Probability					
M6D1a	8	29			
M6D1b	8		70		
M6D1c	8	27, 41, 50, 56	33, 42	64	
M6D1d	8		46		
M6D1e	8	39, 40	68	21, 50	
M6D2a	9		20, 69	66	
M6D2b	9	24, 58	8, 22, 32	19, 24, 39, 65	
M6D2c	9	60			

The standards listed at the beginning of each chapter correspond to the following Georgia Performance Standards descriptions.

M6N. Number and Operations

Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will apply these concepts and associated skills in real world situations.

M6N1. Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will use these concepts to solve problems.

(A) Apply factors and multiples.
(B) Decompose numbers into their prime factorization (Fundamental Theorem of Arithmetic).
(C) Determine the greatest common factor (GCF) and the least common multiple (LCM) for a set of numbers.
(D) Add and subtract fractions and mixed numbers with unlike denominators.
(E) Multiply and divide fractions and mixed numbers.
(F) Use fractions, decimals, and percents interchangeably.
(G) Solve problems involving fractions, decimals, and percents.

M6M. Measurement

Students will understand how to determine the volume and surface area of solid figures. They will understand and use the customary and metric systems of measurement to measure quantities efficiently and to represent volume and surface area appropriately.

M6M1. Students will convert from one unit to another within one system of measurement (customary or metric) by using proportional relationships.

M6M2. Students will use appropriate units of measure for finding length, perimeter, area and volume and will express each quantity using the appropriate unit.

(A) Measure length to the nearest half, fourth, eighth and sixteenth of an inch.
(B) Select and use units of appropriate size and type to measure length, perimeter, area and volume.
(C) Compare and contrast units of measure for perimeter, area, and volume.

M6M3. Students will determine the volume of fundamental solid figures (right rectangular prisms, cylinders, pyramids and cones).

(A) Determine the formula for finding the volume of fundamental solid figures.
(B) Compute the volumes of fundamental solid figures, using appropriate units of measure.
(C) Estimate the volumes of simple geometric solids.
(D) Solve application problems involving the volume of fundamental solid figures.

M6M4. Students will determine the surface area of solid figures (right rectangular prisms and cylinders).

(A) Find the surface area of right rectangular prisms and cylinders using manipulatives and constructing nets.
(B) Compute the surface area of right rectangular prisms and cylinders using formulas.
(C) Estimate the surface areas of simple geometric solids.
(D) Solve application problems involving surface area of right rectangular prisms and cylinders.

M6G. Geometry

Students will further develop their understanding of plane and solid geometric figures, incorporating the use of appropriate technology and using this knowledge to solve authentic problems.

M6G1. Students will further develop their understanding of plane figures.

(A) Determine and use lines of symmetry.
(B) Investigate rotational symmetry, including degree of rotation.
(C) Use the concepts of ratio, proportion and scale factor to demonstrate the relationships between similar plane figures.
(D) Interpret and sketch simple scale drawings.
(E) Solve problems involving scale drawings.

M6G2. Students will further develop their understanding of solid figures.

(A) Compare and contrast right prisms and pyramids.
(B) Compare and contrast cylinders and cones.
(C) Interpret and sketch front, back, top, bottom and side views of solid figures.
(D) Construct nets for prisms, cylinders, pyramids, and cones.

M6A. Algebra

Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.

M6A1. Students will understand the concept of ratio and use it to represent quantitative relationships.

M6A2. Students will consider relationships between varying quantities.

(A) Analyze and describe patterns arising from mathematical rules, tables, and graphs.
(B) Use manipulatives or draw pictures to solve problems involving proportional relationships.
(C) Use proportions $(a/b = c/d)$ to describe relationships and solve problems, including percent problems.
(D) Describe proportional relationships mathematically using $y = kx$, where k is the constant of proportionality.
(E) Graph proportional relationships in the form $y = kx$ and describe characteristics of the graphs.
(F) In a proportional relationship expressed as $y = kx$, solve for one quantity given values of the other two. Given quantities may be whole numbers, decimals, or fractions. Solve problems using the relationship $y = kx$.
(G) Use proportional reasoning$(a/b = c/d$ and$y = kx)$ to solve problems.

M6A3. Students will evaluate algebraic expressions, including those with exponents, and solve simple one-step equations using each of the four basic operations.

M6D. Data Analysis and Probability

Students will demonstrate understanding of data analysis by posing questions to be answered by collecting data. They will represent, investigate, and use data to answer those questions. Students will understand experimental and theoretical probability.

M6D1. Students will pose questions, collect data, represent and analyze the data, and interpret results.

(A) Formulate questions that can be answered by data. Students should collect data by using samples from a larger population (surveys), or by conducting experiments.
(B) Using data, construct frequency distributions, frequency tables, and graphs.
(C) Choose appropriate graphs to be consistent with the nature of the data (categorical or numerical). Graphs should include pictographs, histograms, bar graphs, line graphs, circle graphs, and line plots.
(D) Use tables and graphs to examine variation that occurs within a group and variation that occurs between groups.
(E) Relate the data analysis to the context of the questions posed.

M6D2. Students will use experimental and simple theoretical probability and understand the nature of sampling. They will also make predictions from investigations.

(A) Predict the probability of a given event through trials/simulations (experimental probability), and represent the probability as a ratio.
(B) Determine, and use a ratio to represent, the theoretical probability of a given event.
(C) Discover that experimental probability approaches theoretical probability when the number of trials is large.

M6P. Process Skills

Each topic studied in this course should be developed with careful thought toward helping every student achieve the following process standards.

M6P1. Using appropriate technology, students will solve problems that arise in mathematics and in other contexts.

(A) Build new mathematical knowledge through problem solving.
(B) Solve problems that arise in mathematics and in other contexts.
(C) Apply and adapt a variety of appropriate strategies to solve problems.
(D) Monitor and reflect on the process of mathematical problem solving.

M6P2. Students will investigate, develop, and evaluate mathematical arguments.

(A) Recognize reasoning and proof (evidence) as fundamental aspects of mathematics.
(B) Make and investigate mathematical conjectures.
(C) Develop and evaluate mathematical arguments and proofs.
(D) Select and use various types of reasoning and methods of proof.

M6P3. Students will use the language of mathematics to express ideas precisely.

(A) Organize and consolidate their mathematical thinking through communication.
(B) Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.
(C) Analyze and evaluate the mathematical thinking and strategies of others.
(D) Use the language of mathematics to express mathematical ideas precisely.

M6P4. Students will understand how mathematical ideas interconnect and build on one another. They will apply mathematics in other content areas.

(A) Recognize and use connections among mathematical ideas.
(B) Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
(C) Recognize and apply mathematics in contexts outside of mathematics.

M6P5. Students will create and use pictures, manipulatives, models and symbols to organize, record, and communicate mathematical ideas.

(A) Create and use representations to organize, record, and communicate mathematical ideas.
(B) Select, apply, and translate among mathematical representations to solve problems.
(C) Use representations to model and interpret physical, social, and mathematical phenomena.

Diagnostic Test

Pages 1–12

1. B	8. C	15. A	22. D	29. B	36. D	43. C	50. C	57. D	64. B
2. B	9. B	16. A	23. D	30. A	37. A	44. C	51. A	58. C	65. C
3. C	10. A	17. D	24. B	31. A	38. D	45. B	52. D	59. D	66. D
4. D	11. B	18. C	25. A	32. C	39. D	46. D	53. C	60. B	67. A
5. D	12. B	19. B	26. C	33. C	40. A	47. A	54. C	61. A	68. A
6. B	13. C	20. A	27. A	34. C	41. B	48. A	55. B	62. C	69. B
7. D	14. C	21. A	28. B	35. C	42. A	49. C	56. D	63. B	70. D

Chapter 1 Fractions

Page 16 Prime Factorization

1. 2×5	11. 3×17	21. $3 \times 3 \times 5$
2. 2×7	12. $2 \times 2 \times 3 \times 7$	22. $2 \times 2 \times 2 \times 3 \times 5$
3. 5×11	13. $5 \times 5 \times 5$	23. $2 \times 2 \times 13$
4. $2 \times 5 \times 11$	14. $2 \times 2 \times 2 \times 2 \times 3$	24. 7×13
5. $2 \times 3 \times 3 \times 7$	15. 7×11	25. $2 \times 3 \times 3$
6. 2×71	16. 5×13	26. 1×67
7. $2 \times 2 \times 2$	17. $2 \times 2 \times 2 \times 5 \times 5$	27. $2 \times 2 \times 5$
8. 3×7	18. 7×59	28. 3×5
9. $2 \times 2 \times 2 \times 2 \times 2$	19. $2 \times 2 \times 3$	29. 5×7
10. $2 \times 2 \times 3 \times 3$	20. $2 \times 2 \times 2 \times 3$	30. 2×61

Page 17 Greatest Common Factor

1. 10: 1,2,5,10
   15: 1,3,5,15
   GCF: 5
2. 12: 1,2,3,4,6,12
   16: 1,2,4,8,16
   GCF: 4
3. 18: 1,2,3,6,9,18
   36: 1,2,3,4,6,9,12,18,36
   GCF: 18
4. 27: 1,3,9,27
   45: 1,3,5,9,15,45
   GCF: 9
5. 32: 1,2,4,8,16,32
   40: 1,2,4,5,8,10,20,40
   GCF: 8
6. 16: 1,2,4,8,16
   48: 1,2,3,4,6,8,12,16,24,48
   GCF: 16
7. 14: 1,2,7,14
   42: 1,2,3,6,7,14,21,42
   GCF: 14
8. 4: 1,2,4
   26: 1,2,13,26
   GCF: 2
9. 8: 1,2,4,8
   28: 1,2,4,7,14,28
   GCF: 2
10. 6: 1,2,3,6
    42: 1,2,3,6,7,14,21,42
    GCF: 6
11. 14: 1,2,7,14
    63: 1,3,7,9,21,63
    GCF: 7
12. 9: 1,3,9
    51: 1,3,17,51
    GCF: 3
13. 18: 1,2,3,6,9,18
    45: 1,3,5,9,15,45
    GCF: 9
14. 12: 1,2,3,4,6,12
    20: 1,2,4,5,10,20
    GCF: 4
15. 16: 1,2,4,8,16
    40: 1,2,4,5,8,10,20,40
    GCF: 8
16. 10: 1,2,5,10
    45: 1,3,5,9,15,45
    GCF: 5
17. 18: 1,2,3,6,9,18
    30: 1,3,5,6,10,30
    GCF: 6
18. 15: 1,3,5,15
    25: 1,5,25
    GCF: 5

Page 18 Least Common Multiple

1. 30	3. 36	5. 24	7. 28	9. 30	11. 36	13. 90	15. 36	17. 15
2. 48	4. 21	6. 24	8. 18	10. 42	12. 35	14. 24	16. 45	18. 44

Page 19 Simplifying Improper Fractions

1. $2\frac{3}{5}$	6. $2\frac{2}{7}$	11. $7\frac{1}{2}$	16. $1\frac{1}{2}$	21. $1\frac{7}{8}$
2. $3\frac{2}{3}$	7. $1\frac{5}{8}$	12. $2\frac{4}{9}$	17. $1\frac{3}{4}$	22. $1\frac{3}{10}$
3. 4	8. $1\frac{4}{5}$	13. $1\frac{8}{9}$	18. $2\frac{1}{10}$	23. $1\frac{3}{13}$
4. $1\frac{1}{6}$	9. $7\frac{1}{3}$	14. $3\frac{3}{8}$	19. $1\frac{4}{9}$	24. $2\frac{1}{7}$
5. $3\frac{1}{6}$	10. $3\frac{1}{4}$	15. $4\frac{4}{7}$	20. $1\frac{5}{6}$	25. $1\frac{5}{7}$

Page 20 Changing Mixed Numbers to Improper Fractions

1. $\frac{7}{2}$	6. $\frac{69}{8}$	11. $\frac{18}{5}$	16. $\frac{17}{6}$	21. $\frac{4}{1}$	26. $\frac{5}{1}$
2. $\frac{23}{8}$	7. $\frac{9}{7}$	12. $\frac{75}{8}$	17. $\frac{52}{7}$	22. $\frac{10}{1}$	27. $\frac{6}{1}$
3. $\frac{29}{3}$	8. $\frac{22}{9}$	13. $\frac{54}{5}$	18. $\frac{61}{9}$	23. $\frac{3}{1}$	28. $\frac{11}{1}$
4. $\frac{23}{5}$	9. $\frac{31}{5}$	14. $\frac{33}{10}$	19. $\frac{37}{5}$	24. $\frac{2}{1}$	29. $\frac{8}{1}$
5. $\frac{29}{4}$	10. $\frac{37}{7}$	15. $\frac{29}{7}$	20. $\frac{13}{7}$	25. $\frac{15}{1}$	30. $\frac{16}{1}$

Page 21 Reducing Proper Fractions

1. $\frac{1}{4}$	6. $\frac{1}{2}$	11. $\frac{2}{3}$	16. $\frac{1}{3}$	21. $\frac{1}{6}$	26. $\frac{2}{9}$
2. $\frac{4}{5}$	7. $\frac{7}{11}$	12. $\frac{1}{4}$	17. $\frac{1}{3}$	22. $\frac{1}{3}$	27. $\frac{2}{9}$
3. $\frac{1}{3}$	8. $\frac{3}{7}$	13. $\frac{2}{5}$	18. $\frac{4}{7}$	23. $\frac{3}{5}$	28. $\frac{2}{7}$
4. $\frac{2}{7}$	9. $\frac{2}{7}$	14. $\frac{1}{4}$	19. $\frac{4}{9}$	24. $\frac{1}{2}$	29. $\frac{1}{3}$
5. $\frac{1}{7}$	10. $\frac{3}{13}$	15. $\frac{1}{2}$	20. $\frac{2}{3}$	25. $\frac{1}{6}$	30. $\frac{1}{2}$

Page 22 Finding Numerators

1. 6	6. 30	11. 15	16. 4	21. 18	26. 5
2. 18	7. 9	12. 12	17. 9	22. 12	27. 8
3. 8	8. 6	13. 24	18. 12	23. 3	28. 12
4. 21	9. 10	14. 2	19. 14	24. 21	29. 42
5. 45	10. 12	15. 35	20. 22	25. 4	30. 12

Page 23 Adding Fractions

1. $9\frac{2}{9}$	3. $6\frac{7}{20}$	5. $11\frac{1}{6}$	7. $8\frac{1}{12}$	9. $13\frac{11}{30}$	11. $6\frac{1}{44}$
2. $5\frac{13}{20}$	4. $4\frac{1}{8}$	6. $15\frac{1}{30}$	8. $13\frac{1}{9}$	10. $5\frac{11}{14}$	12. $1\frac{2}{45}$

Page 24 Subtracting Mixed Numbers from Whole Numbers

1. $8\frac{7}{9}$	5. $2\frac{3}{8}$	9. $1\frac{1}{2}$	13. $8\frac{1}{4}$	17. $3\frac{1}{3}$	21. $7\frac{5}{6}$	25. $5\frac{5}{8}$
2. $1\frac{3}{7}$	6. $1\frac{1}{8}$	10. $3\frac{4}{5}$	14. $1\frac{1}{9}$	18. $\frac{2}{5}$	22. $\frac{1}{3}$	26. $3\frac{4}{9}$
3. $12\frac{1}{5}$	7. $4\frac{5}{12}$	11. $1\frac{6}{11}$	15. $7\frac{1}{7}$	19. $\frac{3}{8}$	23. $11\frac{7}{9}$	27. $7\frac{3}{4}$
4. $\frac{3}{5}$	8. $4\frac{2}{3}$	12. $4\frac{1}{10}$	16. $19\frac{17}{20}$	20. $4\frac{6}{7}$	24. $1\frac{4}{13}$	28. $11\frac{2}{7}$

Page 25 Subtracting Mixed Numbers with Borrowing

1. $2\frac{7}{9}$	5. $3\frac{1}{10}$	9. $2\frac{33}{40}$	13. $2\frac{23}{30}$	17. $3\frac{1}{2}$
2. $\frac{11}{18}$	6. $4\frac{13}{20}$	10. $3\frac{1}{30}$	14. $3\frac{7}{8}$	18. $3\frac{5}{6}$
3. $3\frac{5}{21}$	7. $7\frac{5}{12}$	11. $\frac{17}{36}$	15. $2\frac{7}{9}$	19. $3\frac{23}{28}$
4. $1\frac{9}{10}$	8. $4\frac{10}{21}$	12. $1\frac{11}{30}$	16. $3\frac{1}{2}$	20. $8\frac{11}{20}$

Page 26 Multiplying Fractions

1. $4\frac{4}{5}$	3. $9\frac{3}{4}$	5. $2\frac{1}{10}$	7. 19	9. 32	11. $1\frac{2}{3}$	13. $14\frac{1}{2}$	15. $6\frac{1}{2}$
2. $1\frac{2}{7}$	4. $17\frac{1}{2}$	6. $2\frac{6}{7}$	8. $9\frac{1}{3}$	10. $8\frac{1}{4}$	12. $1\frac{3}{4}$	14. $5\frac{3}{4}$	16. 5

Page 27 Dividing Fractions

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

Page 27 Fraction Word Problems

1. $2\frac{53}{60}$	2. $4\frac{1}{2}$	3. 96	4. 750	5. $13\frac{1}{3}$	6. $1\frac{5}{6}$

Page 28 Comparing the Relative Magnitude of Fractions

1. $<$	3. $<$	5. $>$	7. $>$	9. $<$	11. $>$
2. $>$	4. $<$	6. $>$	8. $>$	10. $<$	12. $<$

Chapter 1 Review
Pages 29–30

1. $2\frac{1}{2}$	9. $\frac{51}{10}$	17. $4\frac{7}{8}$	25. $\frac{5}{8}$	33. 24	41. 27
2. $4\frac{4}{5}$	10. $\frac{7}{1}$	18. $2\frac{7}{12}$	26. $2\frac{4}{7}$	34. 45	42. 20
3. $1\frac{1}{3}$	11. $\frac{18}{5}$	19. $7\frac{3}{8}$	27. $\frac{1}{3}$	35. 20	43. 24
4. $4\frac{2}{3}$	12. $\frac{20}{3}$	20. $4\frac{9}{10}$	28. $\frac{5}{12}$	36. 24	44. 33
5. $\frac{1}{3}$	13. $1\frac{1}{3}$	21. $4\frac{2}{3}$	29. 3	37. 20	45. $12\frac{5}{6}$ miles
6. $\frac{1}{4}$	14. $10\frac{7}{8}$	22. $4\frac{3}{4}$	30. 4	38. 18	46. $2\frac{17}{60}$ miles
7. $\frac{2}{3}$	15. $4\frac{7}{15}$	23. 8	31. 5	39. 10	47. $17\frac{1}{2}$ gallons
8. $\frac{2}{3}$	16. $\frac{4}{7}$	24. $\frac{5}{9}$	32. 8	40. 56	

Chapter 2 Decimals

Page 31 Adding Decimals

1. 12.05	4. $13.39	7. 12.537	10. $69.58	13. 55.423	16. 18.13	19. $107.34
2. 9.705	5. $14.15	8. 20.864	11. 15.357	14. $21.13	17. 18.6084	20. $18.96
3. 22.612	6. 22.355	9. $22.65	12. 23.624	15. $34.10	18. 291.652	21. 12.3754

Page 32 Subtracting Decimals

1. 0.55	4. $213.79	7. 398.645	10. $21.53	13. 3.027	16. 9.469	19. 101.421
2. 13.827	5. $1.01	8. $30.10	11. 5.64	14. $13.74	17. 379.43	20. 4.045
3. $38.62	6. 49.447	9. $110.66	12. 10.57	15. $7.05	18. $6.87	21. 9.185

Page 33 Multiplication of Decimals

1. 53.20	5. 100.76	9. 217.580	13. 8.20
2. 50.562	6. 31.95	10. 0.6622	14. 2.7927
3. 36.036	7. 0.01716	11. 2.867	15. 3.8610
4. 15.36	8. 28.016	12. 2.041	16. 1.794

Page 34 Division of Decimals by Whole Numbers

1. 14.25	3. 3.26	5. 6.25	7. 3.52	9. 18.09	11. 7.25	13. 20.50	15. 17.21
2. 12.36	4. 5.89	6. 4.32	8. 12.24	10. 25.3	12. 2.125	14. 12.6	16. 3.9

Page 34 Division of Decimals by Decimals

1. 52	5. 14.2	9. 85.6	13. 60
2. 879	6. 7300	10. 145.8	14. 50
3. $65.00	7. $167.00	11. 1010	15. 4.25
4. $23.00	8. $20.00	12. 21.25	16. $670.00

Page 35 Changing Fractions to Decimals

1. 0.8	5. 0.1	9. 0.6	13. $0.\overline{77}$	17. 0.1875
2. $0.\overline{6}$	6. 0.625	10. 0.7	14. 0.9	18. 0.75
3. 0.5	7. $0.8\overline{3}$	11. $0.\overline{36}$	15. 0.25	19. $0.\overline{8}$
4. $0.\overline{55}$	8. $0.1\overline{6}$	12. $0.\overline{11}$	16. 0.375	20. $0.41\overline{6}$

Page 36 Changing Mixed Numbers to Decimals

1. $5.\overline{6}$
2. 8.45
3. 15.6
4. $13.\overline{6}$
5. $30.\overline{3}$
6. 3.5
7. 1.875
8. 4.09
9. 6.8
10. 13.5
11. 12.8
12. 11.625
13. 7.25
14. $12.\overline{3}$
15. 1.625
16. 2.75
17. 10.1
18. 20.4
19. 4.9
20. $5.\overline{36}$

Page 36 Changing Decimals to Fractions

1. $\frac{11}{20}$
2. $\frac{3}{5}$
3. $\frac{3}{25}$
4. $\frac{9}{10}$
5. $\frac{3}{4}$
6. $\frac{41}{50}$
7. $\frac{3}{10}$
8. $\frac{21}{50}$
9. $\frac{71}{100}$
10. $\frac{21}{50}$
11. $\frac{14}{25}$
12. $\frac{6}{25}$
13. $\frac{7}{20}$
14. $\frac{24}{25}$
15. $\frac{1}{8}$
16. $\frac{3}{8}$

Page 37 Changing Decimals with Whole Numbers to Mixed Numbers

1. $7\frac{1}{8}$
2. $99\frac{1}{2}$
3. $2\frac{13}{100}$
4. $5\frac{1}{10}$
5. $16\frac{19}{20}$
6. $3\frac{5}{8}$
7. $4\frac{21}{50}$
8. $15\frac{21}{25}$
9. $6\frac{7}{10}$
10. $45\frac{17}{40}$
11. $15\frac{4}{5}$
12. $8\frac{4}{25}$
13. $13\frac{9}{10}$
14. $32\frac{13}{20}$
15. $17\frac{1}{4}$
16. $9\frac{41}{50}$

Page 37 Decimal Word Problems

1. $\$11.20$
2. $\$18.75$
3. $\$9.99$
4. $\$2.45$
5. $\$645.33$
6. $\$26.24$
7. 1211
8. 25.38
9. $\$896.05$
10. $\$62.11$

Chapter 2 Review
Page 38

1. 19.019
2. 19.943
3. 164.964
4. 8.927
5. 1.757
6. 7.3
7. 0.1145
8. 1.4943
9. 0.12587
10. 320
11. 142
12. 0.235
13. $\frac{11}{20}$
14. $\frac{21}{25}$
15. $\frac{8}{25}$
16. $7\frac{3}{8}$
17. $9\frac{3}{5}$
18. $13\frac{1}{4}$
19. 5.12
20. 0.07
21. $10.\overline{6}$
22. $>$
23. $<$
24. 23
25. 34.8 pounds
26. 42.3 s

Chapter 3 Percents

Page 39 Changing Percents to Decimals and Decimals to Percents

1. 0.18	8. 1.19	15. 0.05	22. 15%	29. 4.4%	36. 4.2%
2. 0.23	9. 0.07	16. 0.25	23. 62%	30. 58%	37. 37.5%
3. 0.09	10. 0.55	17. 4.10	24. 153%	31. 86%	38. 509%
4. 0.63	11. 0.80	18. 0.01	25. 22%	32. 29%	39. 75%
5. 0.04	12. 0.17	19. 0.50	26. 35%	33. 6%	40. 30%
6. 0.45	13. 0.66	20. 0.99	27. 37.5%	34. 48%	41. 290%
7. 0.02	14. 0.13	21. 1.07	28. 64.8%	35. 308.9%	42. 6%

Page 40 Changing Percents to Fractions

1. $\frac{1}{2}$	5. $\frac{13}{25}$	9. $\frac{9}{50}$	13. $\frac{4}{25}$	17. $\frac{99}{100}$
2. $\frac{13}{100}$	6. $\frac{63}{100}$	10. $\frac{3}{100}$	14. $\frac{1}{100}$	18. $\frac{3}{10}$
3. $\frac{11}{50}$	7. $\frac{3}{4}$	11. $\frac{1}{4}$	15. $\frac{79}{100}$	19. $\frac{3}{20}$
4. $\frac{19}{20}$	8. $\frac{91}{100}$	12. $\frac{1}{20}$	16. $\frac{2}{5}$	20. $\frac{21}{25}$

Page 40 Changing Fractions to Percents

1. 20%	4. 37.5%	7. 10%	10. 75%	13. 6.25%	16. 75%
2. 62.5%	5. 18.75%	8. 80%	11. 12.5%	14. 25%	17. 40%
3. 43.75%	6. 19%	9. 93.75%	12. 31.25%	15. 4%	18. 64%

Page 41 Changing Percents to Mixed Numbers

1. $1\frac{1}{2}$	5. $2\frac{13}{25}$	9. $1\frac{2}{25}$	13. $5\frac{4}{25}$	17. $1\frac{99}{100}$
2. $1\frac{13}{100}$	6. $1\frac{63}{100}$	10. $4\frac{53}{100}$	14. $1\frac{61}{100}$	18. 3
3. $2\frac{11}{50}$	7. $2\frac{3}{4}$	11. $2\frac{1}{20}$	15. $1\frac{79}{100}$	19. $1\frac{1}{4}$
4. $3\frac{19}{20}$	8. $1\frac{91}{100}$	12. $4\frac{1}{20}$	16. $3\frac{2}{5}$	20. $3\frac{21}{25}$

Page 41 Changing Mixed Numbers to Percents

1. 550%	4. 325%	7. 130%	10. 252%	13. 118.75%	16. 480%
2. 875%	5. 487.5%	8. 620%	11. 112.5%	14. 106.25%	17. 340%
3. 100%	6. 300%	9. 400%	12. 200%	15. 500%	18. 600%

Page 42 Comparing the Relative Magnitude of Numbers

1. $<$	6. $>$	11. $<$	16. $<$	21. $<$
2. $=$	7. $>$	12. $=$	17. $<$	22. $=$
3. $=$	8. $>$	13. $=$	18. $>$	23. $>$
4. $>$	9. $<$	14. $=$	19. $<$	24. $<$
5. $<$	10. $=$	15. $>$	20. $>$	25. $>$

Page 43 Changing to Percent Word Problems

1. 75%	4. 80%	7. 48%	10. 92%	13. 87.5%	16. 95%
2. 20%	5. 25%	8. 75%	11. 40%	14. 52%	17. 68%
3. 30%	6. 16%	9. 72%	12. 85%	15. 82.4%	18. 15%

Page 44 Finding the Percent of the Total

1. 34	3. 459	5. 475	7. 71.76	9. $520,000
2. 9	4. 2070	6. 24	8. $580.45	10. 465

Page 45 Finding the Percent Increase or Decrease

1. 12%	3. 13%	5. 54%	7. 19%
2. 83%	4. 20%	6. 14%	8. 44%

Page 46 Tips and Commissions

1. $1080	3. $672	5. $144	7. 129
2. $85	4. $5.37	6. $178.50	8. $112

Page 47 Finding the Amount of a Discount

1. $56.25	3. $5.36	5. $3.60	7. $1012.00	9. $52.50
2. $3.29	4. $13.97	6. $1.44	8. $1.20	10. $31.51

Page 48 Finding the Discounted Sale Price

1. $1.20	3. $46.75	5. $1.92	7. $103.35	9. $3.10	11. $176.25
2. $243.75	4. $12.60	6. $6.80	8. $56.00	10. $356.00	12. $22.50

Page 49 Sales Tax

1. $44.94
2. $18544.70
3. $6.36
4. $12.60
5. $37.86
6. $1.87
7. $116.38
8. $19.08
9. $2.46
10. $97.15

Chapter 3 Review

Page 50

1. 0.45
2. 2.19
3. 0.22
4. 0.0125
5. 52%
6. 64%
7. 109%
8. 62.5%
9. 165%
10. 565%
11. $\frac{1}{4}$
12. $\frac{3}{100}$
13. $\frac{17}{25}$
14. $1\frac{1}{50}$
15. 90%
16. 31.25%
17. 12.5%
18. 25%
19. $>$
20. $<$
21. $<$
22. $<$
23. $<$
24. $>$
25. $\$315,840$
26. $274.80
27. $13.50
28. $615.40
29. $16.00
30. 62.5%
31. 60%

Chapter 4 Ratios, Proportions, and Scale Drawings

Page 51 Ratio Problems

1. $\frac{14}{31}$
2. $\frac{7}{2}$
3. $\frac{25}{124}$
4. $\frac{1}{26}$
5. $\frac{4}{11}$
6. $\frac{\$3.00}{5}$
7. $\frac{23}{45}$
8. $\frac{4}{3}$

Page 52 Solving Proportions

1. 15
2. 15
3. 9
4. 21
5. 30
6. 9
7. 18
8. 4
9. 30
10. 3
11. 12
12. 8
13. 3
14. 1
15. 49
16. 4
17. 6
18. 2

Page 53 Ratio and Proportion Word Problems

1. 7 hr
2. 15 ft
3. 320
4. 5
5. 500 ft^2
6. 250 min
7. 20

Page 54 Proportional Reasoning

1. About 200 fish
2. About 80 cards
3. About 5,000 pennies
4. About 400 squirrels
5. 25

Page 55 Maps and Scale Drawings

1. 1 in
2. 22.5 km
3. 300 km
4. 7 in
5. 6.5 cm
6. 15 ft

Page 56 Using a Scale on a Blueprint

	long wall		short wall	
	ruler measurement	room measurement	ruler measurement	room measurement
1. Kitchen	$1\frac{3}{4}$ in	14 ft	$1\frac{1}{2}$ in	12 ft
2. Deck	$2\frac{1}{4}$ in	18 ft	1 in	8 ft
3. Closet	$\frac{3}{4}$ in	6 ft	$\frac{3}{4}$ in	6 ft
4. Bedroom 1	$1\frac{1}{2}$ in	12 ft	$1\frac{1}{2}$ in	12 ft
5. Bedroom 2	$1\frac{1}{2}$ in	12 ft	$1\frac{1}{2}$ in	12 ft
6. Master Bedroom	2 in	16 ft	$1\frac{3}{8}$ in	11 ft
7. Bath 1	1 in	8 ft	$\frac{3}{4}$ in	6 ft
8. Bath 2	$\frac{7}{8}$ in	7 ft	$\frac{5}{8}$ in	5 ft

Chapter 4 Review

Page 57

1. 16
2. 4
3. 2
4. 18
5. $\frac{9}{20}$
6. 162
7. $\frac{4}{47}$
8. 7.5 cups
9. 375 km
10. 9 yards
11. 12 feet
12. 8 cm
13. About 300 ants

Chapter 5 Patterns and Problem Solving

Page 59 Number Patterns

	Sequence	Pattern	Next Number	20th number in the sequence
1.	$2, 3, 4, 5, 6$	$n+1$	7	21
2.	$5, 6, 7, 8, 9$	$n+4$	10	24
3.	$3, 7, 9, 11, 15, 19$	$4n-1$	23	79
4.	$3, 6, 9, 12, 15$	$3n$	18	60
5.	$3, 5, 7, 9, 11$	$2n+1$	13	41
6.	$2, 4, 8, 16, 32$	2^n	64	$1,048,576$
7.	$1, 8, 27, 64, 125$	n^3	216	$8,000$
8.	$1, 2, 3, 4, 5$	n	6	20
9.	$2, 5, 10, 17, 26$	n^2+1	37	401
10.	$4, 6, 8, 10, 12$	$2n+2$	14	42

Page 60 Inductive Reasoning and Patterns

1. (A) Expect 80 visitors in the fifth week.
   (B) Expect $5 \times 2^{n-1}$ visitors in the nth week.
   (C) It will take 8 weeks to get over 500 visitors in one week.
2. Predict $4,000$ in 2009.
3. Predict 1464 in 2000 (1.1 times 1999 scores)
4. Each week the increase in height is $\frac{1}{2}$ what it was the week before, so the April 29 reading would be $22.5 + 0.75 = 23.25$ inches.
5. Each week the decrease in height is $\frac{1}{2}$ the previous week's, so the temperature at 2:00 would be 32 degrees and at 2:15 would be 30 degrees.

Page 62 Inductive Reasoning and Patterns

1. (A) 19 posts
   (B) $n + 1$
   (C) 310 feet

2. (A) $300 + 10n$
   (B) $300 + 40n$
   (C) 30 months
   (ten 3-month periods)

3. (A) $100 + 2n$
   (B) 50 pair

4. $40 + 4\,(n - 50)$

Pages 65–66 Deductive and Inductive Arguments

1. squirrels are mammals
2. fractions are real numbers
3. all squares are quadrilaterals
4. Luminas are made by General Motors
5. eighteen is divisible by 3
6. F
7. F
8. F
9. T

Chapter 5 Review
Page 66

1. $n - 1$
2. 19
3. $2n - 1$
4. 49
5. $3n$
6. 90
7. $4.95 + 0.95n$
8. 15 hours
9. $22n$
10. 14 batches
11. 378

Chapter 6 Solving One-Step Equations

Page 67 One-Step Algebra Problems with Addition and Subtraction

1. $n = 18$
2. $y = 43$
3. $v = 16$
4. $f = 15$
5. $x = 18$
6. $x = 9$
7. $w = 103$
8. $t = 46$
9. $m = 29$
10. $c = 28$
11. $k = 34$
12. $a = 28$
13. $d = 30$
14. $x = 41$
15. $y = 13$
16. $t = 44$
17. $m = 23$
18. $y = 50$
19. $f = 24$
20. $h = 30$
21. $r = 49$
22. $h = 39$
23. $x = 83$
24. $r = 39$
25. $t = 57$

Page 68 One-Step Algebra Problems with Multiplication and Division

1. $x = 7$
2. $w = 55$
3. $h = 15$
4. $x = 144$
5. $x = 27$
6. $d = 11$
7. $w = 27$
8. $r = 14$
9. $y = 6$
10. $y = 3$
11. $r = 28$
12. $t = 12$
13. $z = 30$
14. $n = 45$
15. $z = 6$
16. $d = 14$
17. $t = 9$
18. $m = 54$
19. $p = 8$
20. $a = 12$

Page 69 One-Step Algebra Problems with Multiplication and Division

1. $x = \frac{3}{2}$
2. $y = \frac{5}{4}$
3. $t = \frac{2}{5}$
4. $b = 12$
5. $a = 8$
6. $y = 2$
7. $x = 3$
8. $z = 16$
9. $x = 18$
10. $p = \frac{5}{3}$
11. $n = \frac{9}{2}$
12. $x = \frac{11}{5}$
13. $m = 12$
14. $h = \frac{21}{5}$
15. $y = \frac{8}{3}$
16. $t = 5$
17. $b = \frac{2}{3}$
18. $c = \frac{14}{5}$
19. $d = \frac{3}{4}$
20. $z = 15$
21. $y = \frac{4}{9}$
22. $d = \frac{12}{7}$
23. $w = \frac{13}{2}$
24. $g = 9$
25. $a = 3$
26. $p = 8$
27. $w = \frac{1}{5}$
28. $x = \frac{13}{5}$

Chapter 6 Review

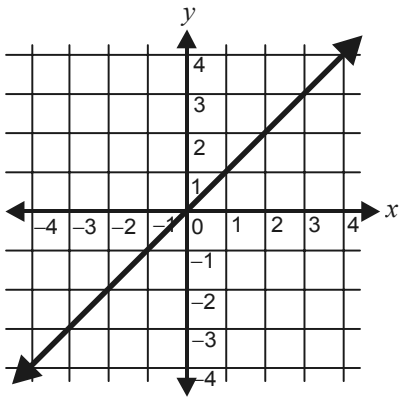
Page 69

1. $x = 20$
2. $d = 25$
3. $y = 14$
4. $h = 3$
5. $p = \frac{1}{7}$
6. $b = 44$
7. $p = 38$
8. $m = 10$
9. $w = 5$
10. $w = 33$
11. $x = 3$
12. $h = \frac{6}{5}$
13. $w = 20$
14. $z = 48$
15. $x = 3$

Chapter 7 Introduction to Writing and Graphing Equations

Page 71 Graphing Simple Linear Equations

1.



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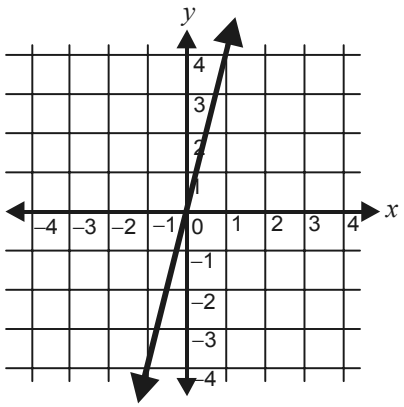

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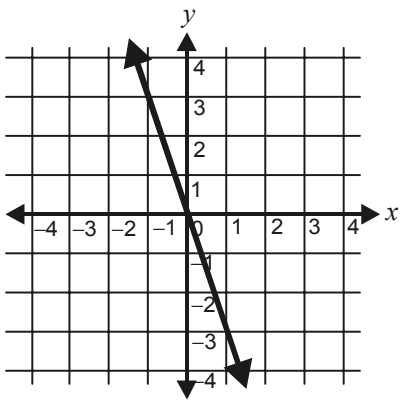

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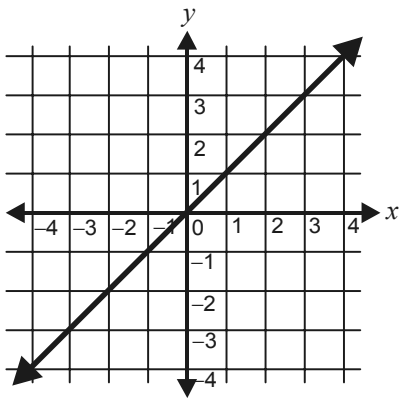

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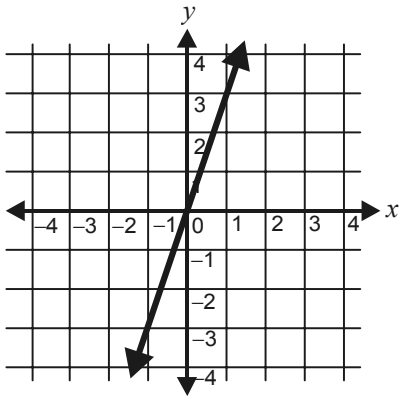

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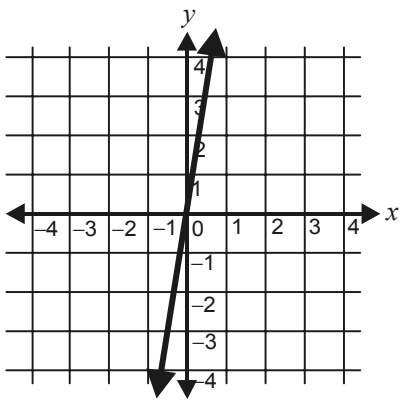
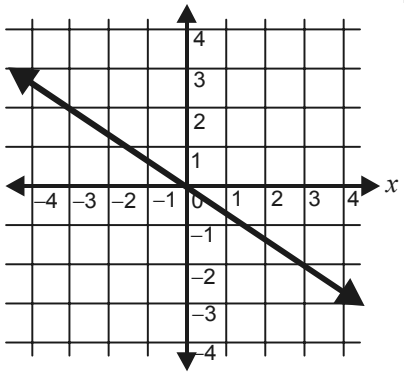


Page 71 Graphing Simple Linear Equations

1.



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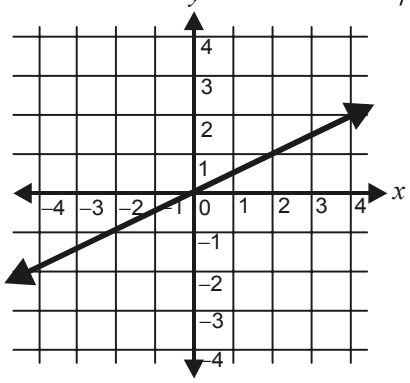

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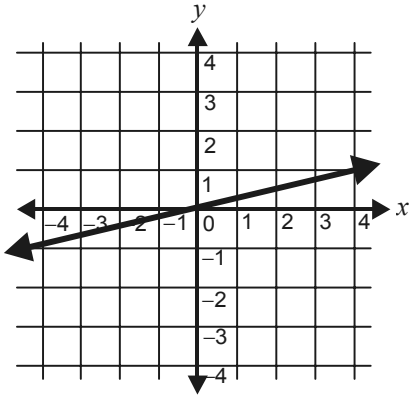

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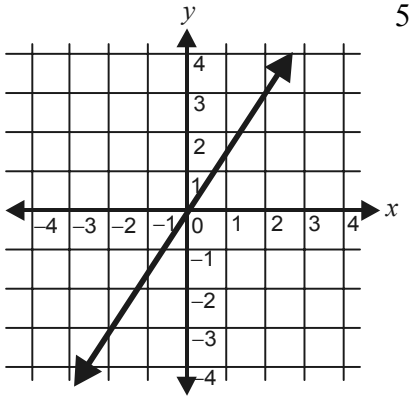

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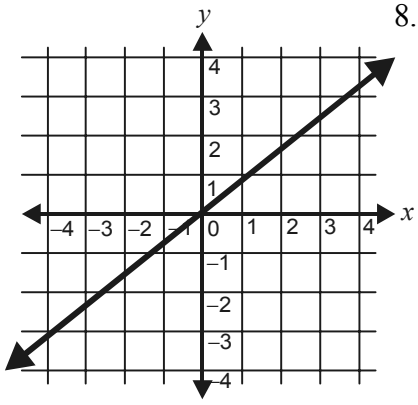

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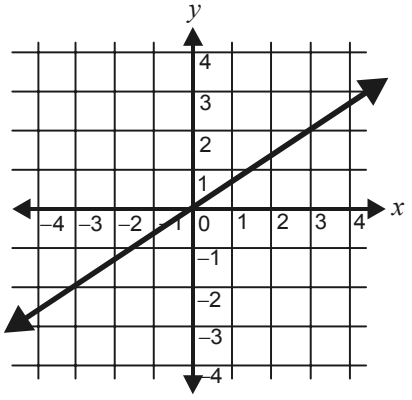

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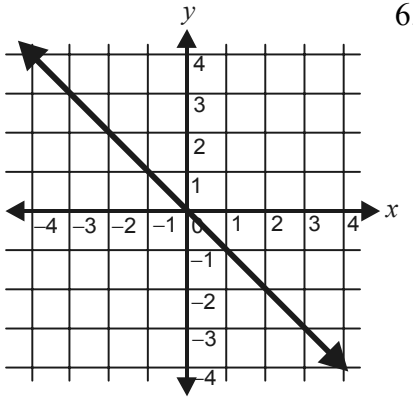

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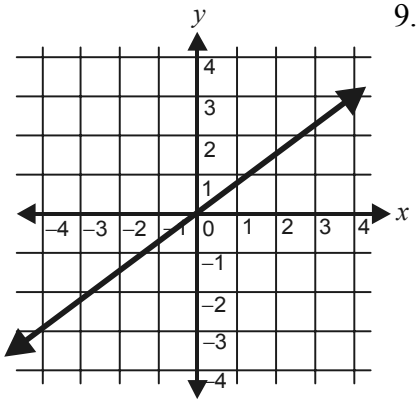

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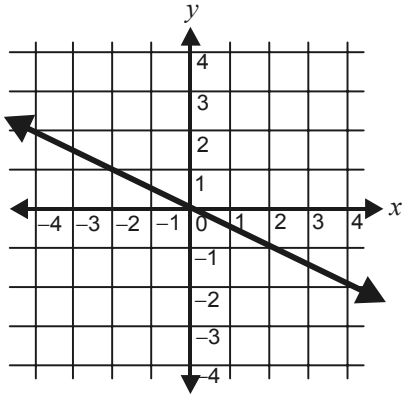
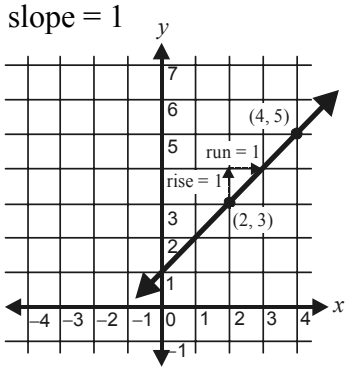
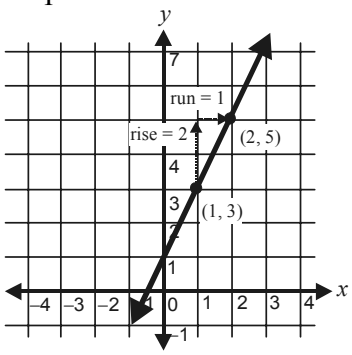


Page 73 Understanding Slope

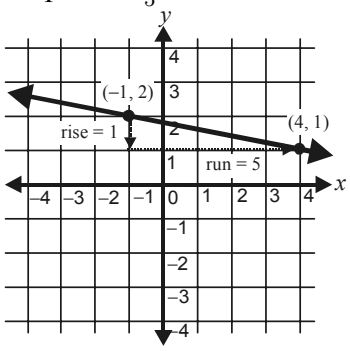
1. slope = 1



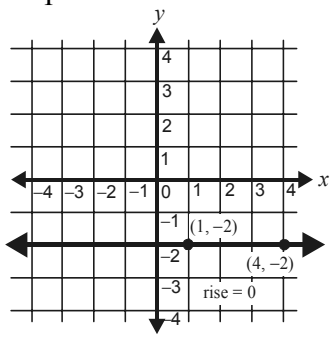
2. slope = 2



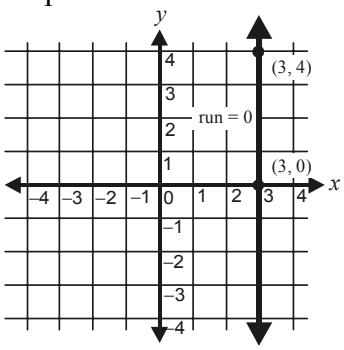
3. slope $= -\frac{1}{5}$



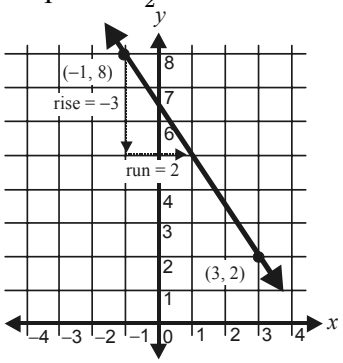
4. slope = 0



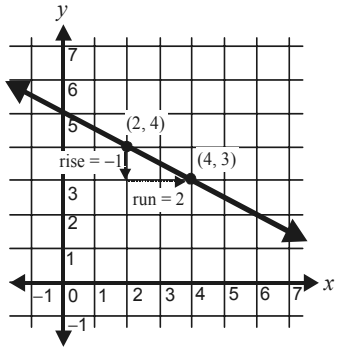
5. slope is undefined



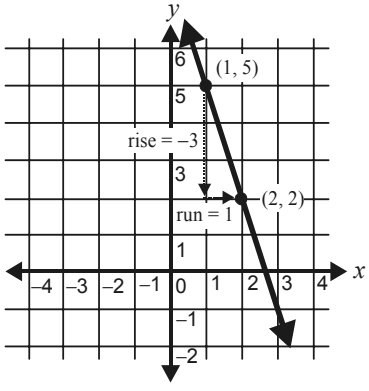
6. slope $= -\frac{3}{2}$



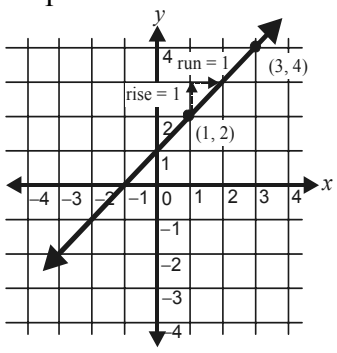
7. slope $= -\frac{1}{2}$



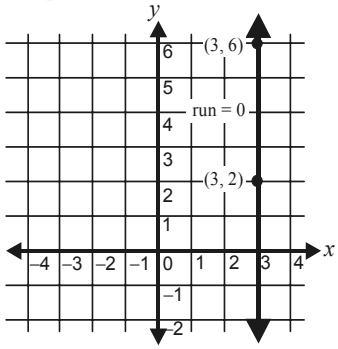
8. slope $= -3$



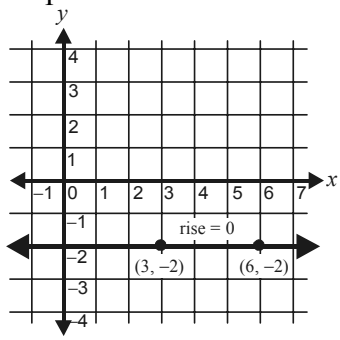
9. slope = 1



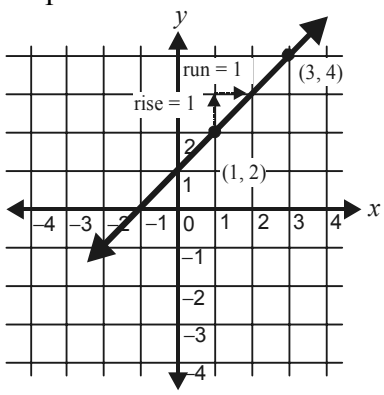
10. slope is undefined



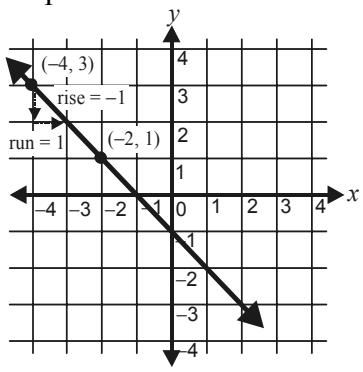
11. slope = 0



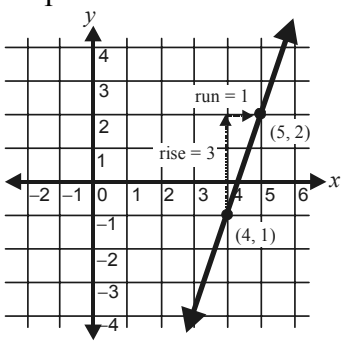
12. slope = 1



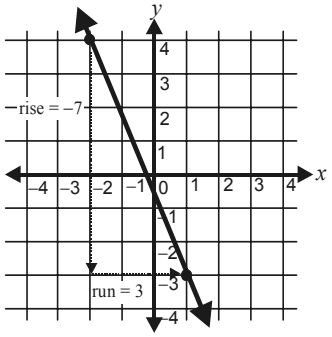
13. slope $= -1$



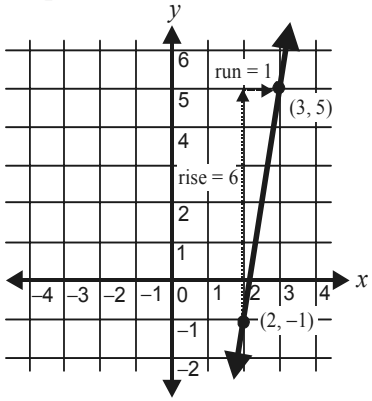
14. slope = 3



15. slope $= -\frac{7}{3}$

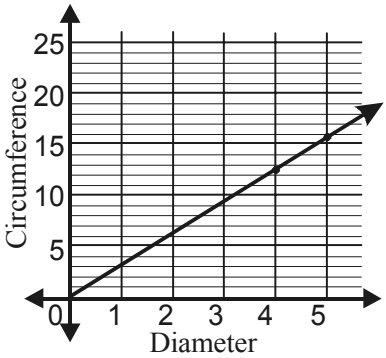


16. slope = 6



Page 75 Graphing Linear Data

1.



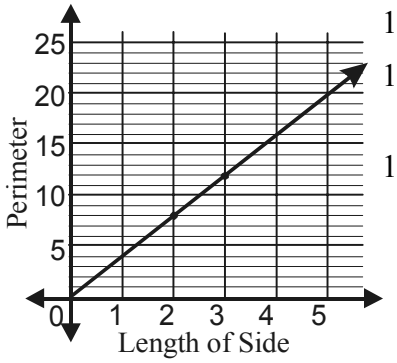
2. circumference $=$ about 9.5 inches

3. about 1 inch

4. slope $= 3.14$

5. The slope of circumference over diameter gives the value of π.

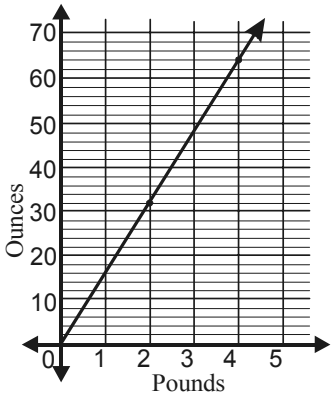
6.



7. Perimeter $=$ 16 inches

8. slope $= 4$

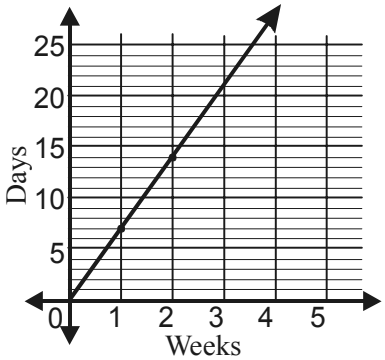
9.



10. 2.5 pounds

11. The slope represents ounces per pound.

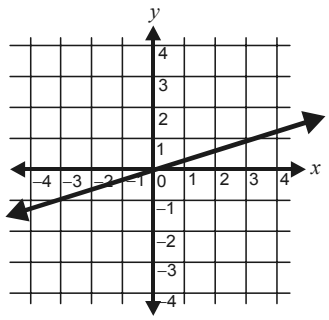
12.



13. about 17.5 days

Chapter 7 Review

Page 76

1. 

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

3. $y = 125x + 75$

4. $y = 50x + 70$

Chapter 8 Data Interpretation

Pages 77–78 Tally Charts and Frequency Tables

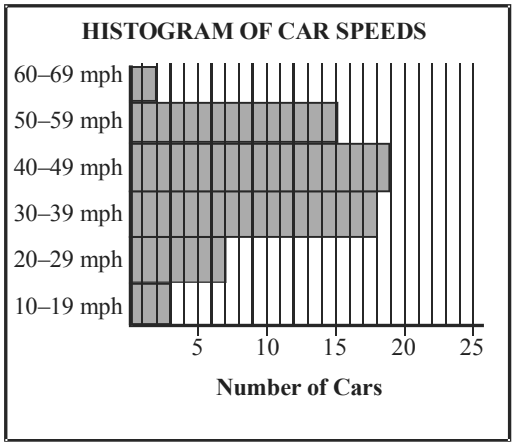
1.

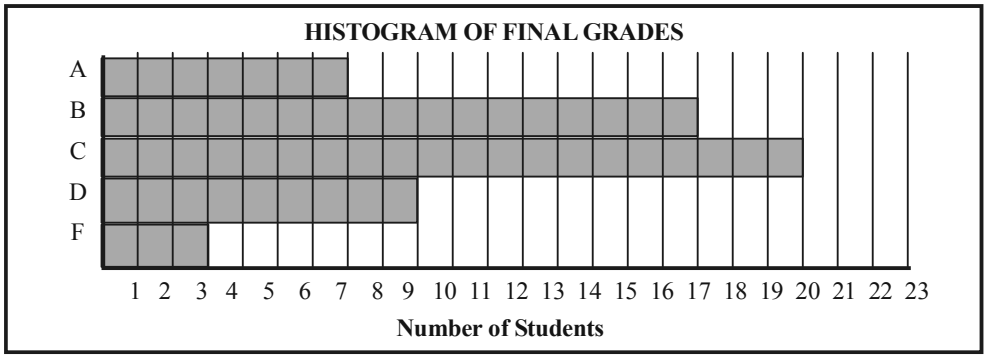
Speed	Tally	Frequency
10-19	𝍸	3
20-29	𝍸 ||	7
30-39	𝍸 𝍸 |||	18
40-49	𝍸 𝍸 ||||	19
50-59	𝍸 𝍸	15
60-69	||	2

2.

Grade	Tally	Frequency
A	𝍸 ||	7
B	𝍸 𝍸 ||	17
C	𝍸 𝍸 𝍸	20
D	𝍸 ||||	9
F	|||	3

Page 78 Histograms

1. 

2. 

Page 79 Reading Tables

1. $19
2. $37
3. $10
4. $29
5. $34
6. $25

Page 80 Bar Graphs

1. China
2. 3
3. 800 Million
4. India
5. 30
6. 7
7. C
8. 96
9. 52

Page 81 Line Graphs

1. False
2. True
3. True
4. True
5. False
6. False
7. True
8. False
9. False
10. False

Page 82 Circle Graphs

1. $16
2. $20
3. $40
4. $4
5. 300
6. 150
7. 280
8. 50
9. 150
10. 70

Page 83 Pictographs

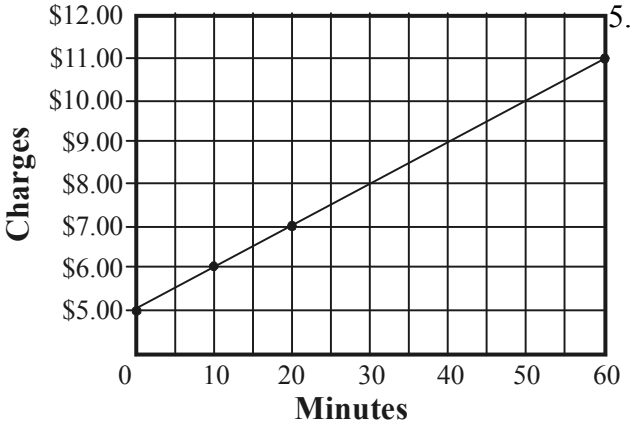
1. 17,500 officers
2. Coast Guard
3. Army officers
4. 262,500 officers
5. 82,500 officers
6. 47,500 officers
7. 95,000 officers

Page 84 Pictographs

1. Europe
2. 3
3. 4
4. Middle East
5. 7 million
6. 17.25 million
7. United States and Canada, Asia, and Australia and Pacific Islands

Page 85 Graphing Data

1.

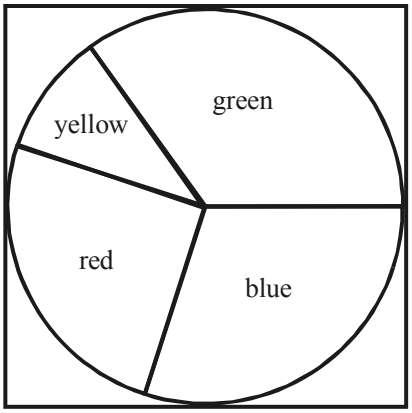


2. $8.00

3. 50 minutes

4. $11.50

5.



6. green

7. yellow

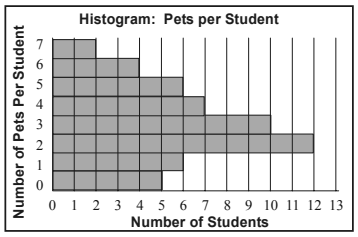
Chapter 8 Review

Pages 86–88

1.

Number of Pets	Frequency
7	2
6	4
5	6
4	7
3	10
2	12
1	6
0	5

2.



3. 33

4. 2

5. 40

6. 11.2 million metric tons

7. 37.6 million metric tons

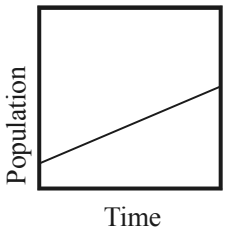
8. 14.8 million metric tons

9. 1.8 billion

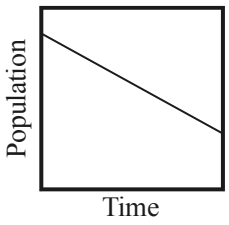
10. 144 million

11. Africa

12.



13.



Chapter 9 Probability

Page 90 Probability

1. $\frac{1}{50}$

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

3. $\frac{2}{7}$

4. $\frac{4}{13}$

5. $\frac{1}{2}$

6. $\frac{2}{15}$

7. $\frac{3}{14}$

8. $\frac{1}{2}$

9. $\frac{1}{2}$

10. $\frac{1}{20}$

11. $\frac{1}{125}$

12. $\frac{1}{4}$

Page 91 More Probability

1. $\frac{1}{1,000}$
2. $\frac{1}{1,000}$
3. $\frac{625}{10,000}$ or $\frac{1}{16}$
4. $\frac{1}{16}$
5. $\frac{1}{17,576}$
6. $\frac{1}{456,976}$
7. $\frac{9}{169}$
8. $\frac{1}{8}$
9. $\frac{1}{1,296}$

Page 93 Simulations

1.(A) $\frac{101}{250}$
(B) $\frac{3}{8}$
(C) $\frac{14}{125}$
(D) $\frac{1}{8}$
(E) Yes

2.(A) $\frac{1}{3}$
(B) $\frac{1}{6}$
(C) $\frac{7}{50}$
(D) the simulation accurately portrays rolling a six-sided cube

Chapter 9 Review
Pages 93–94

1. $\frac{3}{10}$
2. $\frac{1}{3}$
3. $\frac{5}{6}$
4. $\frac{27}{512}$
5. $\frac{1}{8,000}$
6. $\frac{1}{16}$
7. $\frac{5}{12}$
8. $\frac{1}{10,000}$
9. $\frac{1}{676}$
10. $\frac{1}{3}$
11. $\frac{1}{81}$
12. $\frac{3,125}{59,049}$
13. $\frac{64}{729}$
14. $\frac{1}{59,049}$

Chapter 10 Measurement

Page 95 Using the Ruler

1. 1 in
2. $1\frac{1}{4}$ in
3. $1\frac{7}{8}$ in
4. $1\frac{1}{4}$ in
5. $1\frac{3}{4}$ in
6. $\frac{3}{4}$ in
7. $\frac{3}{8}$ in
8. $2\frac{3}{4}$ in

Page 96 More Measuring

1. $1\frac{3}{4}$ in
2. 1 in
3. $1\frac{1}{2}$ in
4. 2 in
5. $1\frac{1}{4}$ in
6. $1\frac{5}{16}$ in, $1\frac{5}{16}$ in
7. 1 in
8. $\frac{7}{8}$ in, $\frac{3}{4}$ in
9. $1\frac{5}{16}$ in
10. $1\frac{3}{16}$ in
11. $1\frac{13}{16}$ in, $1\frac{9}{16}$ in

Page 97 Approximate English Measure

1. C
2. F
3. E
4. G
5. E
6. G
7. D
8. B
9. F
10. A

Page 99 Estimating Metric Measurements

1. B	3. A	5. C	7. D	9. D	11. A	13. B
2. A	4. D	6. A	8. C	10. B	12. C	14. C

Page 100 Converting Units within the Metric System

1. 0.035 g
2. $6,000$ m
3. 0.0215 L
4. 0.49 cm
5. $5,350,000$ mL
6. 0.0000321 kg
7. 0.1564 km
8. 2.5 cg
9. $17,500$ mL
10. 0.0042 kg
11. 6 dL
12. $41,700$ cg
13. 0.182 L
14. 812 cm
15. 0.723 mm
16. 3 L
17. $5,060$ mg
18. 0.1058 cL
19. 4.3 km
20. 205.7 cm
21. 0.5643 kg

Chapter 10 Review
Page 101

1. pound
2. inches
3. liters
4. milligrams
5. 32
6. $4,200$
7. 126
8. 6.8
9. $2\frac{1}{4}$
10. 0.00073
11. 0.12 km
12. $9,000$ mg
13. 20 L
14. 0.0015 g
15. 150 mm
16. $5,000$ mL
17. 5 g
18. 0.055 L
19. 0.3 m

Chapter 11 Plane Geometry

Page 102 Perimeter

1. 26 in
2. 17 ft
3. 168 cm
4. 38 cm
5. 44 in
6. 27 ft

Page 103 Area of Squares and Rectangles

1. 100 ft^2
2. 10 cm^2
3. 36 in^2
4. 180 in^2
5. 36 ft^2
6. 50 cm^2
7. 8 ft^2
8. 40 in^2
9. 144 ft^2
10. 84 cm^2
11. 8 ft^2
12. 42 cm^2

Page 104 Area of Triangles

1. 6 in^2
2. 36 cm^2
3. 21 ft^2
4. 72 cm^2
5. 3 ft^2
6. 160 cm^2
7. 52.5 m^2
8. 31.5 in^2
9. 2 ft^2
10. 12 ft^2
11. 75 ft^2
12. 15 m^2

Page 105 Circumference

1. 50.24 in
2. 43.96 ft
3. 6.28 cm
4. 37.68 m
5. 25.12 ft
6. $18\frac{6}{7}$ ft
7. $37\frac{5}{7}$ in
8. $18\frac{6}{7}$ m
9. $31\frac{3}{7}$ cm
10. $50\frac{2}{7}$ in

Page 106 Area of a Circle

1. 78.5 in^2, $78\frac{4}{7}$ in^2
2. 200.96 ft^2, $201\frac{1}{7}$ ft^2
3. 50.24 cm^2, $50\frac{2}{7}$ cm^2
4. 28.26 m^2, $28\frac{2}{7}$ m^2
5. 18 ft, 254.34 ft^2, $254\frac{4}{7}$ ft^2
6. 2 in, 12.56 in^2, $12\frac{4}{7}$ in^2
7. 16 cm, 200.96 cm^2, $201\frac{1}{7}$ cm^2
8. 10 ft, 314 ft^2, $314\frac{2}{7}$ ft^2
9. 28 m, 615.44 m^2, 616 m^2
10. 9 cm, 254.34 cm^2, $254\frac{4}{7}$ cm^2
11. 24 ft, 452.16 ft^2, $452\frac{4}{7}$ ft^2
12. 3 in, 28.26 in^2, $28\frac{2}{7}$ in^2

Page 108 Two-Step Area Problems

1. 525 ft^2
2. 112 in^2
3. 452 cm^2
4. 73 ft^2
5. 422 in^2
6. 12.5 m^2
7. 2,500 cm^2
8. 216 m^2

Page 109 Similar and Congruent

1. N
2. S
3. C
4. C
5. N
6. C
7. S
8. C
9. C
10. N
11. S
12. N
13. C
14. N

Page 111 Similar Triangles

1. 10
2. 24
3. 9
4. 8
5. 4
6. 9
7. 12
8. 12

Chapter 11 Review
Page 112

1. 4 cm
2. 170 in^2
3. 20 in
4. $P = 16$ ft, $A = 12$ ft^2
5. $C = 6.28$ ft, $A = 3.14$ ft^2
6. 66 cm^2
7. 5
8. 9

Chapter 12 Solid Geometry

Page 114 Volume of Rectangular Prisms

1. 72 ft^3
2. 1,872 mm^3
3. 240 cm^3
4. 1,200 m^3
5. 90 ft^3
6. 4,480 in^3
7. 675 in^3
8. 336 cm^3
9. 18 m^3

Page 115 Volume of Cubes

1. 27 cm^3
2. 216 cm^3
3. 729 cm^3
4. 64
5. 8 cm^3
6. 4 in^3
7. 343 in^3
8. 64 ft^3
9. 1,728 in^3

Page 117 Volume of Spheres, Cones, Cylinders, and Pyramids

1. 401.92 in^3
2. 18 cm^3
3. 523.33 m^3
4. 33.49 ft^3
5. 126 m^3
6. 188.4 mm^3
7. 33.49 m^3
8. 160 in^3
9. 1,469.52 m^3
10. 27 ft^3

Page 118 Two-Step Volume Problems

1. 1,536 in^3
2. 297 in^3
3. 4,383 cm^3
4. 175.84 in^3
5. 165 cm^3
6. 932.58 m^3

Page 120 Geometric Relationships of Solids

1. 3 times greater
2. 3 times greater
3. 4 times greater
4. 2 times greater
5. 2 times greater
6. 4 times greater
7. 8 times greater
8. 512
9. 27 times greater
10. 8 liters

Page 122 Surface Area of Cubes and Rectangular Prisms

1. 24 ft^2
2. 610 cm^2
3. 30 m^2
4. 294 mm^2
5. 176 ft^2
6. 258 cm^2
7. 280 in^2
8. 136 ft^2
9. 150 m^2
10. 356 cm^2

Page 123 Surface Area of Pyramids

1. 16 ft^2
2. 180 mm^2
3. 400 m^2
4. 176 cm^2
5. 33 m^2
6. 261 in^2
7. 88 m^2
8. 125 in^2
9. 8.75 ft^2

Page 124 Surface Area of Cylinders

1. 87.92 m^2
2. 351.68 ft^2
3. 226.08 cm^2
4. 75.36 in^2
5. 175.85 ft^2
6. 1,381.6 m^2
7. 351.68 ft^2
8. 282.6 cm^2
9. 31.4 m^2

Page 125 Surface Area of Spheres

1. 50.24 in^2
2. 452.16 m^2
3. 7.065 yd^2
4. 200.96 cm^2
5. 7,850 mm^2
6. 0.785 ft^2
7. 615.44 cm^2
8. 0.502 km^2
9. 28.26 in^2
10. 1.4 ft^2
11. 1,256 mm^2
12. 78.5 yd^2

Page 125 Surface Area of Cones

1. 15.7 cm^2
2. 68.69 in^2
3. 2,703.54 mm^2
4. 244.92 yd^2
5. 176.63 ft^2
6. 56.52 m^2

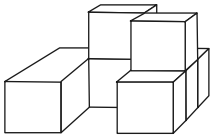
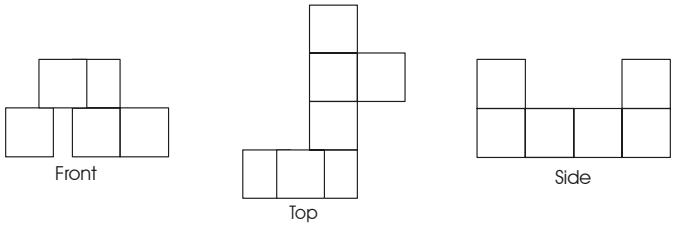
Page 128 Using Nets to Find Surface Area

1. 54 in^2
2. 131 cm^2
3. 502.4 cm^2
4. 518 ft^2
5. 23.7 cm^2
6. 31.4 cm^2

Page 129 Solid Geometry Word Problems

1. $V = 25,000,000$ yd^3
2. $V = 9.42$ ft^3
3. $V = 7,234.56$ cm^3
4. $V = 5.23$ in^3
5. $V = 5,184$ in^3
6. $SA = 250$ cm^2
7. $SA = 207.24$ ft^2
8. $SA = 756$ cm^2
9. $SA = 24$ ft^2, $V = 8$ ft^3

Pages 131–132 Front, Top, Side, and Corner Views of Solids Objects

1. B
2. C
3. A
4. 
5. 3
6. 5
7. 

8. 10

Page 133 Compare and Contrast Prisms and Pyramids

1. 10 ft^3
2. 180 m^2
3. 12 in^2
4. 21 cm^3
5. 16 ft^3
6. 4 ft

Page 134 Compare and Contrast Cylinders and Cones

1. 18 in^3
2. 21 in^2
3. 122 cm^2
4. 7 m^3
5. 150.8 ft^3
6. 2.9 ft

Chapter 12 Review
Pages 135–136

1. $V = 18$ cm^3, $SA = 42$ cm^2
2. $V = 3,080$ in^3, $SA = 1,188$ in^2
3. $V = 48$ m^3, $SA = 96$ m^2
4. $V = 56.52$ ft^3
5. 56 m^3
6. 1,437$\frac{1}{3}$ in^3, $SA = 616$ in^2
7. 36,000 in^3
8. 512
9. 8 times larger
10. 64 in^3
11. 50.24 in^3
12. 2,750 ft^3
13. 2,200 cm^2
14. 52 ft^2
15. 1,728 one inch cubes
16. 80 in^3
17. 1,518 m^3
18. 36 m^2
19. 896 ft^3
20. 1808.64 ft^2

Chapter 13 Symmetry

Page 139 Symmetry Practice

1. E
2. D
3. A, B
4. B
5. F
6. A, B, D
7. E
8. A, B, C, D
9. D
10. E
11. 5
12. 0

Chapter 13 Review

Page 140

1. translational symmetry
2. 180° turn rotational symmetry, reflectional symmetry across 2 lines of symmetry
3. 90° turn rotational symmetry, reflectional symmetry across 4 lines of symmetry
4. no symmetry
5. A
6. C

Practice Test 1

Pages 142–152

1. C	8. A	15. D	22. C	29. D	36. B	43. D	50. D	57. C	64. C
2. B	9. D	16. D	23. C	30. C	37. C	44. A	51. C	58. A	65. C
3. D	10. A	17. C	24. C	31. D	38. A	45. A	52. C	59. B	66. D
4. B	11. A	18. B	25. C	32. B	39. B	46. C	53. C	60. C	67. A
5. A	12. D	19. B	26. B	33. D	40. D	47. D	54. D	61. C	68. C
6. C	13. C	20. C	27. A	34. A	41. C	48. C	55. D	62. C	69. B
7. C	14. C	21. A	28. A	35. C	42. D	49. A	56. D	63. A	70. C

Practice Test 2

Pages 153–161

1. A	8. A	15. C	22. A	29. C	36. D	43. C	50. C	57. A	64. A
2. A	9. B	16. D	23. B	30. D	37. B	44. C	51. D	58. D	65. C
3. D	10. A	17. C	24. C	31. C	38. C	45. B	52. C	59. B	66. B
4. C	11. B	18. C	25. B	32. B	39. B	46. C	53. B	60. B	67. B
5. C	12. D	19. C	26. C	33. D	40. C	47. D	54. C	61. C	68. C
6. D	13. A	20. A	27. A	34. D	41. C	48. C	55. D	62. C	69. B
7. B	14. B	21. C	28. D	35. B	42. B	49. C	56. B	63. B	70. A