

Section 1.5

1. Factors: 4 & 6 Product: 24 3. (6)(4)
 5. $11 - 5$ 7. $9 - 1$ 9. (3)(7)
 11. Commutative property since the order of the factors 4 and 5 is changed.
 13. 8 15. 0 17. 32 19. 1296
 21. 2272 23. 4991 25. 4033 27. 32,616
 29. 93,555 31. 3600 33. 24,000 35. 15,500
 37. $(40)(50) = 2000$ 39. $(50)(200) = 10,000$
 41. $(200)(400) = 80,000$ 43. \$75
 45. 15 gallons, \$60 47. \$2930 49. 1200 calories
 51. 35 sq yd 53. 4840 sq yd 55. 108 sq in

Section 1.6

1. Dividend: 12 Divisor: 3 Quotient: 4
 3. Dividend: 30 Divisor: 6 Quotient: 5
 5. $56 \div 8 = 7$ $56/8 = 7$ $\begin{array}{r} 7 \\ 8 \overline{)56} \end{array}$ 7. 9 (9)(2) = 18
 9. 6 (6)(7) = 42 11. 5 (5)(6) = 30
 13. 1 (1)(9) = 0 15. und. (?) (0) \neq 6
 17. 0 (0)(3) = 0 19. $8 \div 4$
 21. $7 + 2$ 23. $8 - 3$ 25. (11)(3) 27. $8 + 5$
 29. $24 \div 8$ 31. $450 + 20$ 33. (8)(3) 35. 6 weeks
 37. 7 grams 39A. \$56 39B. \$8

Section 1.7

1. 23 3. 48 5. 43 7. 304
 9. 16 11. 302 13. 323 R2 15. 68 R5
 17. 352 R2 19. 57 R5 21. 205 R3 23. 5 gallons
 25. \$12 27. 7 R4 (7 groups of 5 students and 1 group of 4)
 29. 42 R4 (42 of the 6 fluid ounce cups with 4 fluid ounces left over)
 31A. 30 mg 31B. 8 servings 31C. 1200 mg
 33. mean: \$195,000 median: \$190,000 35. 6'1"


Section 1.8

1. $7+7+7+7$ 3. (9)(9)(9)(9) 5. $(8)^5$ 7. $(2)^5$
 9. $(6)^8$ 11. $(8)^2$ 13. $(4)^2(5)^3$ 15. 27
 17. 64 19. 72 21. 9 23. 3
 25. 11 27. 34 29. 12 31. 29
 33. 14 35. 14 37. 25 39. 3
 41. 29 43. 22 45. 100 47. 20
 49. 3 51. 22 years 53. 37 inches 55. 24 in

Section 2.1

1. Composite numbers are divisible by at least one natural number besides 1 and itself
 3. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47
 5. 3, 5 7. 2, 5, 10 9. none 11. prime
 13. composite 15. prime 17. 1,2,3,6,9,18 19. 1,2,4,5,8,10,20,40
 21. 1,2,4,5,10,20,25,50,100 23. $(2)^4$ 25. $(2)^5$
 27. $(3)(5)^2$ 29. $(2)^2(5)(7)$ 31. $(3)(5)(11)$ 33. $(2)^3(5)(7)$

Section 2.2

1. $3/8$ 3. $7/3$ 5. $5 \frac{2}{3}$ 7. $3/5$
 9. $2/3$ 11. 
 15. A proper fraction has a numerator which is smaller than the denominator.
 17. proper: $2/3, 4/9$ improper: $8/5, 9/2, 5/5$
 19. proper: $5/6, 9/10, 3/4$ improper: $7/3, 15/15$
 21. $5/3$ or $1 \frac{2}{3}$ 23. $5/4$ or $1 \frac{1}{4}$
 27. Draw 6 rectangles and break each into eight equal parts then shade all the parts of five of the rectangles and in the last rectangle shade three of the eight parts.
 29. $4 \frac{1}{2}$ 31. $1 \frac{2}{5}$ 33. $3 \frac{1}{4}$ 35. $5 \frac{7}{8}$
 37. $11 \frac{4}{9}$ 39. $7/2$ 41. $17/9$ 43. $31/6$
 45. $38/3$
 53. Divide the interval between 8 and 9 into four equal segments and go three of these segments to the right.
 55. Divide the interval between 6 and 7 into eleven equal segments and go seven of these segments to the right.

Section 2.3

1. $10/12, 15/18$ 3. $2/14, 3/21$ 5. $14/20, 21/30$ 7. $7/8$
 9. $1/6$ 11. $2/3$ 13. $3/4$ 15. $2/3$
 17. $6/7$ 19. $1/5$ 21. $3/7$ 23. $2/3$
 25. $7/9$ 27. $3/5$ 29. $8/9$

Section 2.4

1. $14/45$ 3. $16/25$ 5. $10/21$ 7. $2/5$
 9. $2/9$ 11. $3/5$ 13. $1 \frac{1}{4}$ 15. $5/63$
 17. $8/27$ 19. $9/32$ 21. 600 23. 50
 25. 1500 27. 64 29. $1 \frac{1}{2}$ 31. $2 \frac{17}{24}$
 33. 4 35. 650 mi 37. 60 senators 39. 16 hours
 41. 4 million 43. rent \$2,250 trans. \$2,000 food \$1500
 45. $4 \frac{2}{3}$ sq. yd. 47. $5/32$ sq. in.

Section 2.5

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|-------------------------|---------------------|---------------------------------------|-----------------------------------|
| 1. $1 \frac{3}{5}$ | 3. $\frac{1}{6}$ | 5. $\frac{2}{7}$ | 7. $\frac{8}{33}$ |
| 9. $\frac{15}{16}$ | 11. $1 \frac{7}{8}$ | 13. $\frac{5}{6}$ | 15. 18 |
| 17. 120 | 19. $\frac{3}{20}$ | 21. $3 \frac{1}{9}$ | 23. $4 \frac{2}{3}$ |
| 25. $\frac{9}{8}$ | 27. 4 | 29. $2 \frac{7}{10}$ | 31. $\frac{1}{18}$ |
| 33. 72 | 35. 8 containers | 37. $19 \frac{1}{4}$ miles | 39. 700 miles |
| 41. $2 \frac{1}{2}$ lbs | 43. 24 times | 45. $8 \div \frac{1}{4} = 8 \times 4$ | $8 \div 4 = 8 \times \frac{1}{4}$ |
| 47. < | 49. > | 51. > | |

Section 2.6

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|---------------------------|--------------------|----------------------------------|
| 5. 5 sq in | 7. 30 cm, 30 sq cm | 9. 15 sq ft |
| 11. $3 \frac{1}{4}$ sq in | 13. 3 sq in | 15. 13 in, $6 \frac{3}{4}$ sq in |
| 17. $12 \frac{1}{2}$ sq m | | |

Section 3.1

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|--------|--------|---------|--------|
| 1. 24 | 3. 24 | 5. 10 | 7. 60 |
| 9. 36 | 11. 36 | 13. 12 | 15. 60 |
| 17. 90 | 19. 40 | 21. 198 | 23. 90 |
| 25. 84 | 27. 75 | 29. 252 | |

Section 3.2

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|-------------------|--------------------------|---|------------------------|
| 1. $\frac{3}{4}$ | 3. $\frac{7}{9}$ | 5. $\frac{7}{8}$ | 7. $1 \frac{2}{5}$ |
| 9. 1 | 11. $1 \frac{1}{3}$ | 13. $\frac{1}{5}$ | 15. $\frac{1}{3}$ |
| 17. $\frac{1}{4}$ | 19. $\frac{2}{5}$ | 21. 0 | 23. $\frac{5}{7}$ |
| 25. $\frac{1}{8}$ | 27. $\frac{5}{9}$ | 29. > | 31. > |
| 33. < | 35. $1 \frac{7}{8}$ feet | 37. 2 nd stop; $\frac{2}{3}$ | 39. $\frac{1}{4}$ yard |

Section 3.3

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|---|--------------------------------------|---------------------------------------|--|
| 1. $\frac{8}{12}$ | 3. $\frac{8}{16}$ | 5. $\frac{4}{28}$ | 7. $\frac{12}{32}$ |
| 9. $\frac{25}{100}$ | 11. $\frac{12}{4}$ | 13. $7 \frac{2}{10}$ | 15. $5 \frac{4}{24}$ |
| 17. 10 | 19. 24 | 21. 40 | 23. 12 |
| 25. $\frac{3}{6}$, $\frac{5}{6}$ | 27. $\frac{15}{18}$, $\frac{4}{18}$ | 29. $\frac{24}{40}$, $\frac{25}{40}$ | 31. $3 \frac{15}{18}$, $4 \frac{2}{18}$ |
| 33. $1 \frac{25}{60}$, $2 \frac{18}{60}$ | | 35. > | 37. < |
| 39. < | 41. > | 43. < | 45. > |

Section 3.4

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|-------------------------|-------------------------|----------------------------|---------------------------|
| 1. $1 \frac{1}{4}$ | 3. $1 \frac{5}{24}$ | 5. $\frac{9}{16}$ | 7. $\frac{11}{12}$ |
| 9. $\frac{17}{24}$ | 11. $1 \frac{4}{15}$ | 13. $\frac{1}{6}$ | 15. $\frac{9}{35}$ |
| 17. $\frac{7}{24}$ | 19. $\frac{1}{20}$ | 21. $\frac{5}{16}$ | 23. 1 |
| 25. $\frac{5}{16}$ | 27. $\frac{17}{18}$ | 29. $1 \frac{15}{16}$ feet | 31. $\frac{1}{4}$ of pop. |
| 33. $\frac{3}{16}$ inch | 35. Rent, $\frac{5}{8}$ | | |

Section 3.5

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|-----|--|-----|-----------------|---------------------|-------------------|--------------------|---------------------|--|
| 1. | $7\frac{3}{5}$ | 3. | $7\frac{1}{3}$ | 5. | $13\frac{11}{18}$ | 7. | $10\frac{1}{5}$ | |
| 9. | $4\frac{11}{12}$ | 11. | $18\frac{7}{8}$ | 13. | $2\frac{1}{2}$ | 15. | $4\frac{7}{20}$ | |
| 17. | $3\frac{5}{8}$ | 19. | $\frac{31}{60}$ | 21. | $1\frac{9}{20}$ | 23. | $4\frac{1}{4}$ | |
| 25. | $4\frac{3}{5}$ | 27. | $\frac{5}{12}$ | 29. | $3\frac{1}{4}$ | 31. | $7\frac{1}{4}$ feet | |
| 33. | $13\frac{11}{12}$ mi, $4\frac{1}{12}$ mi | | 35. | $4\frac{3}{5}$ tons | 37. | $\frac{3}{8}$ inch | | |

Section 4.1

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|-----|---|-----|-----|---|---|-----|---------|
| 1. | 0.236, $\frac{236}{1000}$ | | 3. | 5.38, $5\frac{38}{100}$ | | | |
| 5. | 6.008, $6\frac{8}{1000}$ | | 7. | 19/100, nineteen hundredths | | | |
| 9. | 6/100, six hundredths | | 11. | 1 $\frac{7}{10}$, one and seven tenths | | | |
| 13. | 5 $\frac{45}{1000}$, five and forty five thousandths | | | | | | |
| 15. | 503/1000, five hundred three thousandths | | | | | | |
| 17. | 0.7, seven tenths | | 19. | 0.09, nine hundredths | | | |
| 21. | 6.307, six and three hundred seven hundredths | | | | | | |
| 23. | 0.00145, one hundred forty five one-hundred thousandths | | | | | | |
| 25. | 2 | 27. | 4 | 29. | 2 | 31. | \$25.38 |
| 33. | \$2308.40 | | 35. | Eighty three cents | | | |
| 37. | one dollar and thirty five cents | | 39. | Eighteen dollars and nine cents | | | |
| 41. | 17 millimeters | | 43. | 185 micrograms | | | |
| 45. | 0.045 grams | | 47. | 0.000325 grams | | | |
| 49. | 0.015 grams | | 51. | 0.000000970 meters, 0.000003 meters | | | |

Section 4.2

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|-----|-----------------------------------|-------|-----------|-----|-----------------------------------|-------|----------|
| 1. | 46,000 | 3. | 2.9 | 5. | 0.013 | 7. | 0.000457 |
| 9. | 0.19 | 11. | 9000 8950 | 13. | 20 23 | 23.1 | |
| 15. | 3.0 3.03 | 3.029 | | 17. | 0.3 0.26 | 0.259 | |
| 19. | \$124 | 21. | \$275 | 23. | \$10,000 | 25. | \$4.06 |
| 27. | \$.05 | 29. | \$1.04 | 31. | > | 33. | < |
| 35. | > | 37. | < | 39. | > | | |
| 41. | 0.200, 0.209, 0.219, 0.225, 0.230 | | | 43. | 0.010, 0.100, 0.101, 0.120, 0.121 | | |
| 45. | 6.68, 6.70, 7.324, 7.350, 7.400 | | | 47. | 12.98 | | |

Section 4.3

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|-----|---|-----|--------|-----|-------------------------------------|-----|------|
| 1. | 0.35 | 3. | 0.1875 | 5. | 7.575 | 7. | 0.42 |
| 9. | 0.89 | 11. | 0.64 | 13. | 3.44 | 15. | 6.27 |
| 17. | 0.67 | 19. | 0.33 | 21. | 0.60 | 23. | 0.25 |
| 25. | $\frac{1}{2}$, 0.519, 0.530, 0.560 | | | 27. | 0.390, 0.400, 0.448, $\frac{9}{20}$ | | |
| 29. | 0.790, $\frac{4}{5}$, .801, $\frac{9}{10}$ | | | | | | |

Section 4.4

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|--------------|-------------|-------------|----------------|
| 1. 31.08 | 3. 17.75 | 5. 0.789 | 7. 6.91 |
| 9. 44.5 | 11. 9.08 | 13. 2.82 | 15. 5.15 |
| 17. 5.77 | 19. 3.83 | 21. 15.9 | 23. 2.45 |
| 25. \$782.69 | 27. \$11.37 | 29. 80.1 kg | 31. 18.85 feet |
| 33. 1.6 feet | | | |

Section 4.5

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|--------------|---------------|------------------|-----------------|
| 1. 23.2 | 3. 3.36 | 5. 0.115 | 7. 2.82 |
| 9. 59.5 | 11. 0.104 | 13. 8.37 | 15. 0.0225 |
| 17. 2.4 | 19. 0.08 | 21. 0.0048 | 23. 501.4 |
| 25. 0.5014 | 27. 0.005014 | 29. 21.7 | 31. 82 |
| 33. 510 | 35. 1,700,000 | 37. 98.6° | 39. 212° |
| 41. \$17.40 | 43. \$18.00 | 45. \$76.35 | 47. \$14,579 |
| 49. 23 miles | 51. \$10.80 | 53. 35.5 sq yd | 55. 86.1 sq in |

Section 4.6

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|---------------------------------|----------------------------|-------------------|---------------------|
| 1. 0.32 | 3. 4.55 | 5. 0.17 | 7. 1.4 |
| 9. 4.8 | 11. 22.6 | 13. $473 \div 52$ | 15. $1500 \div 129$ |
| 17. $31200 \div 25$ | 19. 3.2 | 21. 45.5 | 23. 2.94 |
| 25. 19.1 | 27. 12.8 | 29. 128.6 | 31. 0.47 |
| 33. 0.453 | 35. 0.0093 | 37. 30° | 39. 0° |
| 41. 27.6 | 43. 58 mph | 45. \$1.43 | 47. 645 miles |
| 49. 4 candy bars at \$0.79 each | 51. 12 cans at \$0.51 each | | |
| 51. 3.5 | 53. 2.9 | | |

Section 5.1

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|------------|---------------|------------|-----------|
| 1. $2/3$ | 3. $4/3$ | 5. $12/7$ | 7. $3/7$ |
| 9. $9/7$ | 11. $188/177$ | 13. $3/4$ | 15. $1/3$ |
| 17. $1/18$ | 19. $1/3$ | 21. $2/1$ | 23. $1/3$ |
| 25. $1/3$ | 27. $3/2$ | 29. $4/15$ | |

Section 5.2

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|-----------------------------|----------------------------|---------------------|
| 1. $43/100$, 0.43, 43% | 3. $27/100$, 0.27 | 5. $123/100$, 1.23 |
| 7. $3/100$, 0.03 | 9. 0.46 | 11. 0.235 |
| 15. 1.325 | 17. 0.2747 | 19. 6% |
| 23. 250% | 25. 0.25% | 21. 91.65% |
| 29. 0.007, 9%, 0.2309, 150% | 27. 0.12, 35.1%, 1.4, 8.5% | |

Section 5.3

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|-----------------|--------------------|------------|-----------------------|
| 1. 42 | 3. 7.5 | 5. 9.8 | 7. 1.08 |
| 9. 6.012 | 11. 1.4 | 13. 24 | 15. 2.4 |
| 17. 3.5 | 19. 4 | 21. 16 | 23. 500 IU |
| 25. 21 students | 27. 1.2 billion | 29. 22, 12 | 31. \$42, \$378 |
| 33. \$54, \$246 | 35. \$1.35, \$4.35 | 37. \$3100 | 39. \$53.55, \$683.55 |

Section 5.4

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|--------------------|---------------|------------------|---------------------|
| 1. 0.35, 7/20 | 3. 0.25, 1/4 | 5. 0.035, 7/200 | 7. 2.5, 2 1/2 |
| 9. 0.167, 167/1000 | | 11. 87.5% | 13. 92.5% |
| 15. 235% | 17. 8.3% | 19. 22.2% | 21. 35.7% |
| 23. 183.3% | 25. 75% | 27. 40% | 29. 67% |
| 31. 30% | 33. 60% | 35. 32%, 32/100 | |
| 37. 1.40, 1 2/5 | 39. 80%, 0.80 | 41. 0.4%, 4/1000 | 43. 30.5%, 305/1000 |

Section 5.5

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|--------------|-----------------|-----------|---------|
| 1. 65% | 3. 85% | 5. 60% | 7. 8% |
| 9. \$18, 30% | 11. \$3.20, 40% | 13. 2% | 15. 20% |
| 17. 80% | 19. 33.3% | 21. 16.7% | |

Section 6.1

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|--|---|
| 1. \$23/2 hr | 3. 100 mi/ 3 gal |
| 5. 160 mi/3 hr | 7. 200 ml/3 hr |
| 9. 31 birth/500 women | 11. \$12/1 ticket, 2.6 people per household |
| 13. 12 g/1 ser | 15. 40 mi/1 gal |
| 17. 5 cal/1 min | 19. \$11.50/1 hr |
| 21. 33 mi/1 gal | 23. 53 mi/1 hr |
| 25. 67 ml/ 1 hr | 27. \$0.30/1 oz |
| 29. \$3.98/ 1 gal | 31. \$0.39/1oz, \$9.36 for 24 ounces |
| 33. \$0.625/1 soda, \$3.75 for 6 sodas | |

Section 6.2

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|-------------------|-------------------|----------------|---------------------|
| 1. \$800 | 3. 630 miles | 5. 225 miles | 7. 100 days |
| 9. 4 tablets | 11. 560 mg | 13. 18 in high | 15. \$11.20 |
| 17. 639 mi | 19. 562.5 kg | 21. 4936 pesos | 23. 510.21 Canadian |
| 25. 23.63 in high | 27. 6090 infected | | |

Section 6.3

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|----------------|---------------|-------------|-------------|
| 1. 72 in | 3. 15 ft | 5. 5280 yd | 7. 2.5 cups |
| 9. 10 qt | 11. 24 fl oz | 13. 1.5 lb | 15. 48 oz |
| 17. 9000 lb | 19. 216 in | 21. 12 cups | 23. 48 Tbsp |
| 25. 4 ft 10 in | 27. 5 ft 8 in | 29. 56 in | 31. 71 in |