

Answer Key

1. $\frac{2}{6}$
2. $\frac{4}{8}$
3. $\frac{3}{7}$
4. $\frac{3}{12}$
5. $\frac{3}{10}$
6. $\frac{4}{7}$
7. $\frac{5}{6}$
8. $\frac{2}{7}$
9. $\frac{3}{6}$
10. $\frac{5}{15}$
11. 25
12. 29
13. 30
14. 32
15. 35
16. 33
17. 28
18. 31
19. 37
20. 38
21. 10.9
22. 10.2
23. 1.1
24. 1.3
25. 14.9
26. 3.7
27. 7.6
28. 4.8
29. 11
30. 3.9
31. 5.5
32. 16
33. 1.1
34. 14.7
35. 11
36. 16.7
37. 4.9
38. 3.5
39. 0.9
40. 1.9
41. 3
42. 3
43. 10
44. 5
45. 2
46. 7
47. 12
48. 2
49. 3
50. 8
51. $25 \times 3 = \$75$
52. $24 \div 4 = 6$
53. $7 \times 0.25 = \$1.75$
54. $3 \times 3 \times 2 = \underline{18}$
55. $280 \div 4 = 7$ hrs
 $1:00 + 7:00 = \underline{8:00 \text{ P.M.}}$
56. (a) 5 D & 1 N&1 P
(b) 2 Q&1 N&1 P
(c) $3 \times 25 = 75$, $75 - 56 = \underline{19 \text{¢}}$
57. $15 \div 5 = 3$
 $9 \times 2 \times 3 = 54 \text{ lb}$
58. $84 \div 14 = 6$ cars
59. $70 - 44 = \$26$
60. $192 \div 8 = 24$
61. $30 \div 6 = 5$ groups
62. $120 \div 2 = 60$
 $120 \div 3 = 40$
 $60 + 40 = 100$
 $120 - 100 = \underline{20}$
63. $17 \times 7 = 119$ stamps
64. $105 \div 7 = 15$
65. $95 + 91 + 84 = 270$
 $270 \div 3 = \underline{90}$
66. $125 \div 8 = 15\text{R}5$
 $15 + 1 = \underline{16 \text{ trays}}$
67. $8 + 5 = 13$
68. $15 \div 3 = 5$
 $5 \times 4 = 20 \text{ ft}$
69. $5 - 1 = 4$

MAP 230 (T1) Issue 8

70. (a) $91 - 42 = 49$
(b) $42 - 35 = 7$
(c) $91 - 35 = 56$

71. $28 \div 4 = 7$
 $3 \times 7 = 21$

72. $4 \times 2.5 = \underline{\$10}$

73. $26 - 16 = 10$
 $10 \div 2 = \underline{5}$

74. $5 \times 6 + 10 = 40$ bars

75. $3.5 \times 4 = \$14$
 $20 - 14 = \$6$

76. $5 \times 6 = 30$
 $30 \div 2 = 15$ days

77. $4 \times 1.5 = 6$
 $10 - 6 = \underline{\$4}$

78. 10

79. $18 \div 3 = 6$
 $21 \div 3 = 7$
 $6 \times 7 = \underline{42}$

80. $96 \div 6 = 16$
 $16 \times 2 \times 2 = 64$

81. $\frac{1}{4}, 25$

82. $60 \times 60 \times \frac{3}{4} = \underline{2700 \text{ sec}}$

83. $32 \div 4 = 8$
 $8 \times 8 = \underline{64}$

84. C

85. 45

86. 10

87. 12

88. Chris = $22 - 9 = 13$
Danielle + Chris = $22 + 13 = 35$
Jennie = $2 \times 35 = 70$

89. $1 - \frac{2}{3} = \frac{1}{3}$
 $\frac{1}{3} \times 18 = 6$

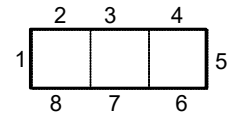
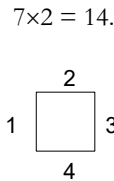
90. $42 - 6 \times 3 = 24$
 $24 \div 3 = 8$
 $3 + 8 = \underline{11 \text{ chickens}}$

Answer Key

1. 30, 300
2. 40, 400
3. 50, 500
4. 60, 600
5. 70, 700
6. 80, 800
7. 90, 900
8. 1, 10
9. 2, 20
10. 3, 30
11. 1000, 10000
12. 2000, 20000
13. 3000, 30000
14. 4000, 40000
15. 5000, 50000
16. 6000, 60000
17. 7000, 70000
18. 8000, 80000
19. 9000, 90000
20. 100, 1000
21. 25000
22. 30000
23. 24000
24. 28000
25. 32000
26. 100000
27. 35000
28. 150000
29. 200000
30. 360000
31. 0.56
32. 0.016
33. 0.0028
34. 0.024
35. 0.63
36. 0.0035
37. 0.021
38. 0.49
39. 0.042
40. 0.014
41. $190 - 92 = 98$
42. $7 \times 7 = 49$

43. (a) $9 \times 2 = 18$
(b) $3 \times 2 = 6$
(c) $3 \times 3 = 9$
44. (a) $60 \times (5/6) = 50$
(b) $60 \times (5/6) = 50$
45. $10.00 - 3 \times 3.00 = 1$
46. $(8+10)/2 = 9$
47. D
48. (a) $49/7 = 7$
(b) $36/6 = 6$
49. (a) 53 (b) 39 (c) H
50. (a) $28 \times (5/7) = 20$
(b) $28 \times (1 - 5/7) = 8$
51. $90 - 60 = 30$
52. $2 \times 10 / 10 = 2$
53. (a) $8 + 3 + 3 = 14$
(b) $8 \times 3 \times 3 = 72$
54. 15
55. $65 \times 5 = 325$
56. B

You don't need to know the length of a side of each square. How many pieces of segments to enclose the rectangle (formed by 3 squares)? It takes 8 pieces, twice the number of a square. Therefore, the perimeter is twice that of a square. The perimeter of the rectangle is



57. C
58. D
59. D
60. B
 $26 - 4 = 22$
 $22 \div 4 = 5R2$
61. B
62. B
63. B
64. A

MAP 240 (T1) Issue 8

65. A
 $700 - 300 = 400$
66. D
67. B
 $4 = \frac{1}{4} \times 16$
68. D
69. D
70. B
 $24 = 4 \times 6$
71. 60
72. $\frac{3}{4} \times \frac{5 \times 3}{4 \times 3} \times \frac{5 \times 3}{5 \times 4} \times \frac{5 \times 9}{6 \times 5} = \frac{3}{4} = 3/4$
73. 24
74. 0.018
75. 0.3
76. .00006
77. $0.5 \div 0.75 = \frac{2}{3} = 2/3$
78. $20 \div \frac{2}{5} = 50$
79. 2.1
80. $\frac{1}{4} = 1/4$
81. $\frac{1}{2}$
82. 60,000
83. 184
84. 8.86
85. 17
86. $\frac{2}{3} = 2/3$
87. 8.26
88. 13.54
89. 3.9
90. 8.78

Answer Key

1. .12
2. .006
3. .018
4. 0.006
5. 12,000
6. 60
7. $10\frac{1}{4}$
8. 2.292
9. $1\frac{1}{5}$
10. F
11. 1.79
12. 150
13. 96
14. .8
15. 1.68
16. 10.5
17. 1.2
18. 10
19. 6
20. 30
21. A) $\begin{array}{r} \frac{9}{12} \\ + \frac{12}{10} \\ \hline \frac{12}{12} \end{array} = \frac{19}{12} = 1\frac{7}{12}$ B) $6\frac{7}{12}$
22. A) $\begin{array}{r} \frac{38}{70} \\ + \frac{70}{49} \\ \hline \frac{70}{70} \end{array} = 1\frac{17}{70}$ B) $20\frac{17}{70}$
23. A) $\begin{array}{r} \frac{16}{30} \\ - \frac{5}{30} \\ \hline \frac{11}{30} \end{array} = \frac{11}{30}$ B) $\frac{11}{30}$
24. A) $\begin{array}{r} 1\frac{3}{24} \\ - \frac{20}{24} \\ \hline \frac{7}{24} \end{array} = \frac{7}{24}$ B) $2\frac{9}{20}$
25. A) $\begin{array}{r} \frac{14}{48} \\ + \frac{15}{48} \\ \hline \frac{29}{48} \end{array} = \frac{29}{48}$ B) $5\frac{29}{48}$
26. $\begin{array}{r} 1\frac{9}{24} \\ - \frac{16}{24} \\ \hline \frac{17}{24} \end{array} = \frac{17}{24}$
27. $\begin{array}{r} \frac{10}{12} \\ - \frac{3}{12} \\ \hline \frac{7}{12} \end{array} = \frac{7}{12}$
28. $\begin{array}{r} \frac{2}{25} \\ + \frac{10}{25} \\ \hline \frac{12}{25} \end{array} = \frac{12}{25}$
29. $\begin{array}{r} 3\frac{9}{24} \\ - \frac{4}{24} \\ \hline 3\frac{5}{24} \end{array} = 3\frac{5}{24}$
30. $\begin{array}{r} 5\frac{4}{24} \\ + \frac{3}{24} \\ \hline 5\frac{7}{24} \end{array} = 5\frac{7}{24}$
31. $2\frac{3}{5} - 1\frac{2}{3} = \frac{14}{15}$
32. $21\frac{5}{12} - 11\frac{2}{3} = 9\frac{9}{12} = 9\frac{3}{4}$
33. 44
34. 45
35. 115
36. D
37. C
38. B
39. C
40. D
41. B
42. A
43. C
44. B
45. D
46. D
47. A
48. C
49. D
50. C
51. B
52. A
53. B
54. D
55. B
56. $\frac{5}{8}$
57. $\frac{3}{14}$
58. 66
59. $\frac{2}{3} \times 6 - \frac{1}{4} \times 12 = 4 - 3 = 1$
60. 0.6
61. 60
62. 500

MAP 250 (T1) Issue 8

63. $146 - 2 = 144 = 16 \times 9$
Ans = 9

64. $3\frac{1}{8} = 3.125 = 312.5\%$

65. $50 \div 2 = 25$
 $25 - 10 = 15$
 $10 \times 15 = 150 \text{ in}^2$

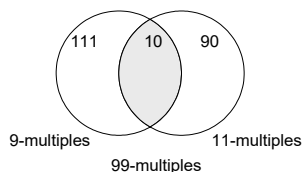
66. A

67. $40 \times 2 \div 8 = 10$

68. $36 = 6 \times 6$
 $2 \times (1 + 3) = 8$
 $8 \times 6 = 48 \text{ in}$

69. $80 \times 4 - 90 \times 3 = 50$

70. $1000 \div 9 = 111 \text{ R } 1$
There are 111 multiples of 9.
 $1000 \div 11 = 90 \text{ R } 10$
There are 90 multiples of 11.
 $1000 \div 99 = 10 \text{ R } 10$
There are 10 multiples of 99.
 $111 + 90 - 10 = 191$



71. $500 \div 2 = 250$
 $\frac{12}{200} \times 250 = \frac{6}{100} \times 250 = 6 \times 2.5 = 15 \text{ (min)}$

72. $150 \times \frac{2}{3} \times \frac{1}{2} = 50$

73. 50 (min)

74. $40 \div 8 = 5$

75. $5 \times 5 = 25$
 $25 \times 3 = 75$

76. [Note: $(-1)^{\text{even}} = 1$, $(-1)^{\text{odd}} = -1$]
 $(-1)^{1 \times 2 \times 3 \times 4 \times 5} = (-1)^{120} = 1$

77. $70\%(120) = 84$
or

$84 \div 0.7 = 120$

78. $30\% \times 120 = 36$

79. $72 \times \frac{5}{6} = 60$

80. $10000 \times 20\% = 2000$
 $10000 + 2000 = 12,000$

81. $184 \div 8 = 23$ (miles)

82. $105 = 3 \times 5 \times 7$
 $5 \times 7 = 35$

83. (a) $36 \div \frac{4}{5} = 36 \times \frac{5}{4} = 45$
D)

(b) $45 \div \frac{3}{4} = 45 \times \frac{4}{3} = 60$ (G)

84. 15

85. $\frac{18}{8} = \frac{9}{4} = \frac{81}{x}$
 $x = 36$

86. $150/200 = \frac{3}{4} = 0.75 = 75\%$

87. $\frac{1}{4} = 0.25 = 25\%$

88. $128 \div 16 = 8$ pints a gallon
 $576 \div 8 = 72$ gal

89. $1 + 20\% = 1.2$
 $3,000 \times 1.2 = 3,600$

90. $5000 \times 1.2 = 6000$
or

$6000 \div 1.2 = 5000$

91. $\text{GCD}(54, 36) = 18$
 $\text{GCD}(18, 24) = 6$

92. $1500 - 180 \times 5 = \$600$

93. MP3: $400 \times 0.6 = 240$
Left: $400 \times 0.4 = 160$ or $400 - 240 = \$160$

94. $40 \text{ min} = \frac{2}{3} \text{ hr}$
 $\frac{2700}{4} \times \frac{2}{3} = \frac{900}{2} = 450 \text{ mi}$

95. $45\% \times 80 = .45 \times 80 = 36$

Answer Key

1. 5
2. 3
3. 6
4. 10
5. 4
6. 2
7. $\frac{2}{9}$
8. $\frac{1}{2}$
9. $\frac{5}{8}$
10. $\frac{3}{4}$
11. $x = 6$
12. 2
13. $x = 4$
14. $x = 3$
15. $x = 2$
16. $x = 1$
17. $n = -12$
18. -13
19. 4
20. $x = 1$
21. Yes
22. First, use B to write $\frac{3-(\square)}{-1-(\square)}$
Then, use A to fill $\frac{3-(7)}{-1-(-5)}$
Finally, simplify it as $\frac{-4}{4} = -1$
23. First, use D to write $\frac{10-(\square)}{7-(\square)}$
Then, use C to fill $\frac{10-(-5)}{7-(1)}$
Finally, simplify it as $\frac{15}{6} = \frac{5}{2} = 5/2$
24. $\Delta y = Q_y - P_y = (3) - (4) = -1$
 $\Delta x = Q_x - P_x = (2) - (-3) = 5$
 $\text{slope} = \Delta y / \Delta x = -\frac{1}{5} = -1/5$
25. $\Delta y = S_y - R_y = (5) - (-2.5) = 7.5$
 $\Delta x = S_x - R_x = (-6.5) - (-9) = 2.5$
 $\text{slope} = \Delta y / \Delta x = 3$
26. $1/7$
27. $-3/4$
28. $4/3$
29. $\Delta y = B_y - A_y = (1) - (3) = -2$
 $\Delta x = B_x - A_x = (-3) - (0) = -3$
 $\text{slope(AB)} = \Delta y / \Delta x = -2 / -3 = 2/3$
30. $\Delta y = C_y - B_y = (-3) - (1) = -4$
 $\Delta x = C_x - B_x = (-2) - (-3) = 1$
 $\text{slope(BC)} = \Delta y / \Delta x = -4 / 1 = -4$
31. $\text{slope(CD)} = \frac{(-3)-(-3)}{2-(-2)} = 0$
32. $\text{slope(DE)} = \frac{(1)-(-3)}{3-(2)} = 4$
33. $\text{slope(EA)} = \frac{(1)-(-3)}{3-(0)} = 2/3$
34. They are collinear since $\text{slope(ST)} = 3$, and $\text{slope(TU)} = 3$
35. They are not collinear since $\text{slope(XY)} = 3$, while $\text{slope(YZ)} = -7$
36. Since they are collinear, we have
 $\text{slope(AC)} = \text{slope(AB)}$
 $\frac{6-(-4)}{5-3} = \frac{3.5-(-4)}{a-3}$
 $\frac{10}{2} = 5 = \frac{7.5}{a-3}$
 $a - 3 = 1.5 \Rightarrow a = 4.5$
37. For the value of a ,
 $\frac{-7-(-9)}{2-10} = \frac{-5-(-9)}{a-10}$
 $\frac{2}{-8} = -\frac{1}{4} = \frac{4}{a-10}$
 $a - 10 = -16 \Rightarrow a = -6$
For the value of b ,
 $\frac{6-(-3)}{4-1} = \frac{b-(6)}{5-4}$
 $3 = b - 6 \Rightarrow b = 9$
38. $B = (5, 2)$
39. $D = (-3, 8)$
40. $P = (1, 5)$
41. $\frac{25}{10} \times 3 = 7.5 \text{ lbs}$
42. $6 \times 43 = 258$
 $8 \times 51 = 408$
 $408 - 258 = 150$
 $150 \div 2 = 75$
43. C
 $\frac{1}{6} - \frac{1}{12} = \frac{1}{12}$
 $\frac{1}{12} \div 3 = \frac{1}{36}$
 $\frac{1}{12} + \frac{1}{36} = \frac{4}{36} = \frac{1}{9}$
44. $\frac{6-4.8}{4.8} = \frac{1}{4} = 0.25 = 25\%$
45. $42.67 + 50 - 15 - 21 + 16.25 + 25 = \97.92

MAP 260 (T1) Issue 8

46. 4 A & 1 B & 4 C

$$\begin{array}{r} 4 \quad 3 \quad \boxed{1} \quad 2 \\ \quad 4 \quad 5 \quad \boxed{4} \\ + \quad \boxed{4} \quad 1 \quad 2 \quad 7 \\ \hline 8 \quad 8 \quad 9 \quad 3 \end{array}$$

47. a unit = 3

$$\text{length} = 3 \times 3 = 9$$

$$\text{width} = 2 \times 3 = 6$$

$$9 \times 6 = 54$$

48. $140 \div 20 = 7$

49. $25 \times 7 = 175$

50. $385 \div 7 = 55 \text{ min}$

51. $120 \div 1600 = 0.075 = 7.5\%$

52. B

53. Since the average of B, C and D is 14, the total of the four boys is

$$10 + 14 \times 3 = 52,$$

thus the average of the four boys is

$$52 \div 4 = 13$$

54. 3 meters

55. $20 \times 8\% = 20 \times 0.08 = 2 \times 0.8 = \1.60

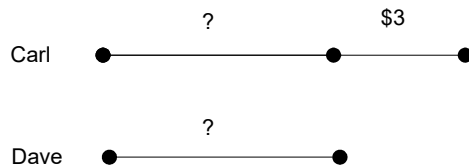
56. $\frac{\text{discount}}{\text{price}} = \frac{10}{40} = \frac{1}{4} = 25\%$

57. $15 - 3 = 12$

$12 \div 2 = \$6.00$ (Dave)

$6 + 3 = \$9.00$ (Carl)

Use the following diagram to solve.



Total: \$15

58. $\frac{800-600}{800} = \frac{1}{4} = 25\%$

59. $\frac{21}{4-2.5} \times (4+2.5) = \91

$\frac{21}{4-2.5}$: the hourly rate

$4+2.5$: total time

60. $\frac{13}{25} = 0.52 = 52\%$

61. $\frac{1}{8} = 1/8$

62. 1

63. $\frac{9}{14} = 9/14$

64. $\frac{5}{3} \div 1\frac{2}{3} = 1$

65. 0.09

66. $4\frac{1}{3} = 4\frac{1}{3}$

67. $12\frac{5}{6} = 12\frac{5}{6}$

68. 214

69. 9.5

70. $4\frac{1}{4} - 3\frac{1}{3} = 1\frac{1}{4} - \frac{1}{3} = \frac{15-4}{12} = \frac{11}{12} = 11/12$

71. $5\frac{35}{36}$

72. $x^5 = \sqrt{x^{10}}$, $a = 10$

73. 2.3

74. $3.60 \div 12 = 0.3$

$$2.40 \div 6 = 0.4$$

$$0.4 - 0.3 = \$0.10$$

75. $\text{GCF}(84, 96) = 12$

$$84 \div 12 \times (96 \div 12) = 7 \times 8 = 56 \text{ pieces}$$

76. 150

77. $360 \times 4 = 1440$

$$40(1 + 2 + 3) = 240$$

$$1440 + 240 = 1680$$

78. $30 + 45 = 75$

$$40\% \times 75 = 30$$

$$30 - 9 = 21 \text{ games}$$

79. A

$$900 \div 300 \times 20 = 60 \text{ (gallons)}$$

80. B

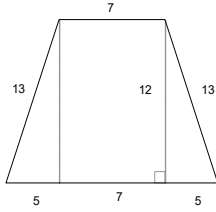
$$600 \div 60 = 10$$

Answer Key

1. III
2. II
3. IV
4. I
5. $P = (-5, 0)$
6. $Q = (0, -3)$
7. $L_1: y = -3$
8. $L_2: x = -5$
9. No
10. Yes
11. Yes
12. Yes
13. Yes
14. No
15. Yes
16. No
17. a) and c)
18. a) (2, 4)
19. b) $(0, -\frac{3}{2})$ and c) (6, 0)
20. a) (0, 5) and b) $(-2\frac{1}{2}, 0)$
21. First, use B to write $\frac{3-(\square)}{-1-(\square)}$
Then, use A to fill $\frac{3-(7)}{-1-(-5)}$
Finally, simplify it as $\frac{-4}{4} = -1$
22. First, use D to write $\frac{10-(\square)}{7-(\square)}$
Then, use C to fill $\frac{10-(-5)}{7-(1)}$
Finally, simplify it as $\frac{15}{6} = \frac{5}{2} = 5/2$
23. $\Delta y = Q_y - P_y = (3) - (4) = -1$
 $\Delta x = Q_x - P_x = (2) - (-3) = 5$
 $\text{slope} = \Delta y / \Delta x = -\frac{1}{5} = -1/5$
24. $\Delta y = S_y - R_y = (5) - (-2.5) = 7.5$
 $\Delta x = S_x - R_x = (-6.5) - (-9) = 2.5$
 $\text{slope} = \Delta y / \Delta x = 3$
25. $1/7$
26. $-3/4$
27. $4/3$
28. $\Delta y = B_y - A_y = (1) - (3) = -2$
 $\Delta x = B_x - A_x = (-3) - (0) = -3$
 $\text{slope}(AB) = \Delta y / \Delta x = -2 / -3 = 2/3$
29. $\text{slope}(EA) = \frac{(1)-(-3)}{3-(0)} = -2/3$
30. $\text{slope}(DE) = \frac{(1)-(-3)}{3-(2)} = 4$
31. $\Delta y = C_y - B_y = (-3) - (1) = -4$
 $\Delta x = C_x - B_x = (-2) - (-3) = 1$
 $\text{slope}(BC) = \Delta y / \Delta x = -4/1 = -4$
32. $\text{slope}(CD) = \frac{(-3)-(-3)}{2-(-2)} = 0$
33. $B = (5, 2)$
34. $D = (-3, 8)$
35. $P = (1, 5)$
36. $AC = 10$
37. $\text{slope}(AC) = 3/4$
38. $BD = 10$
39. $\text{slope}(BD) = -3/4$
40. 1:2
41. $y = 4$
42. y -intercept = 4
43. $x = -3$
44. x -intercept = -3
45. $\sqrt{(-3)^2 + (4)^2} = 5$
46. (6, 0)
47. (0, 3)
48. $x = 6$
49. $y = 3$
50. (2, -3)
51. Yes
52. a) $(0, \frac{-2}{5})$ and b) $(\frac{1}{3}, \frac{-1}{5})$
53. a) $(0, \frac{4}{3})$ and b) (8, 0)
54. b) (-3, -2)
55. b) (-1, 1) and c) (4, 3)
56. a) $(0, \frac{8}{3})$ and c) (4, 0)
57. $b = 3$
58. $a(2) + 3(-5) = 5$
 $2a = 20$
 $a = 10$
59. (0, 0), the origin
60. $2(1) - 5(-2) = c$
 $c = 12$
61. 14.4
62. $2x - 3 = 12$
 $2x = 15$
 $x = 7.5$
63. $-2(x - 3) = 4(3x + 1)$
 $-x + 3 = 2(3x + 1)$
 $-x + 3 = 6x + 2$
 $7x = 1$
 $x = 1/7 = 1/7$
64. $A:B = 4:3$
 $A^2:B^2 = 16:9$
65. $\frac{1}{2}(7+17) \times 12 = 144$

MAP 270 (T1) Issue 8

66. $17 + 13 + 7 + 13 = 50$



67. $36 \text{ min} = 0.6 \text{ hr}$

$$\frac{24(\text{miles})}{0.6(\text{hour})} = 40 \text{ miles per hour}$$

68. $x = 20$

69. $0, -\frac{1}{5}$

Ans = 0 & $-\frac{1}{5}$

70. The area of the larger circle \ the area of the smaller circle

$$= 12^2\pi - 10^2\pi$$

$$= 44\pi$$

71. $x = 60$

72. $3.9 + 4.6 = \$8.50$

73. $\frac{87}{96} = \frac{29}{32}$

$$160 \times \frac{29}{32} = 145$$

74. The total parts is $2+3+5 = 10$, thus each part account for $180 \div 10 = 18$. Ans = 90° .

75. $1 - \frac{1}{8} = \frac{7}{8} = 7/8$

76. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$$1 - \frac{1}{4} = \frac{3}{4} = 3/4$$

77. Let x be the number of calories for Breakfast meal.

Lunch meal: $200 + x$

Dinner meal: $3x$

Thus, we have

$$x + (x + 200) + 3x \leq 1200$$

$$5x + 200 \leq 1200$$

$$5x \leq 1000$$

$$x \leq 200$$

Dinner: $3x = 600$

78. 60

79. 6

80. $21 \div 2 = 10.5$

$$10.5 - 8.5 = 2 \text{ (width)}$$

$$2 \times 8.5 = 17 \text{ sq. ft}$$

81. C

82. C

83. B

84. D

85. C

86. A

87. B

88. C

89. A

90. -2

91. B

92. D

93. D

94. D

95. D

96. A

97. 12,100

$$d = 1100t$$

$$d = 1100 (11)$$

$$d = 12,100$$

98. A

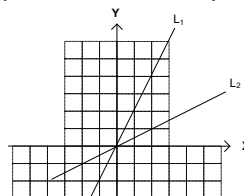
99. A

100. D'(1, -1), E'(4, -3), F'(5, 1)

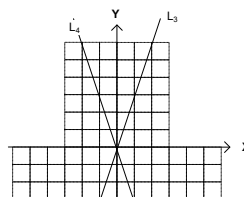
Answer Key

1. line(AC): $y = \frac{4}{3}x - \frac{5}{3}$
2. line(AB): $y = \frac{1}{7}x - \frac{20}{7}$
3. line(BC): $y = -\frac{3}{4}x + \frac{5}{2}$
4. 5
 $\Delta x = x_1 - x_2 = -1 - 2 = -3$
 $\Delta y = y_1 - y_2 = -3 - 1 = -4$
 Distance formula: $\sqrt{\Delta x^2 + \Delta y^2} =$
 $\sqrt{(-1 - 2)^2 + (-3 - 1)^2} = 5$
5. 5
6. $5\sqrt{2}$
7. Right isosceles since $AC = BC$ and $AC^2 + BC^2 = AB^2$.
8. L_2 and L_3
9. L_1, L_4, L_5 and L_6
10. L_3
11. L_2
12. L_1, L_2 , and L_6
13. L_3, L_4 , and L_5
14. $-a$
15. L_3
16. B(13, -5), C(13, 1) and D(3, 1)
17. O(8, -2)
18. E(8, -5), F(13, -2), G(8, 1) and H(3, -2)
19. $y = -2$
20. $x = 8$
21. slope = $\frac{3}{5}$, L_1 : $y = \frac{3}{5}x - \frac{34}{5}$
22. slope = $-\frac{3}{5}$, L_1 : $y = -\frac{3}{5}x + \frac{14}{5}$
23. $2x + 3y = 4$
24. $\frac{1}{2}x - 0.3y = -3$
25. $2x - 6y = 7$
26. $4x + 3y = -8$
27. It is already a standard form.
28. slope = 3
 $y = 3x + 2$
29. slope = -4
 $y = -4x + 3$
30. slope = 2
 $y = 2x - 4$
31. slope = $-3/5$
 y -intercept = $6/5$
32. slope = $\frac{1}{2}$
 y -intercept = 2.5
33. slope = 36 and y -intercept = 10
34. slope = -2.5 and y -intercept = 3
35. slope = 3 and y -intercept = $-\frac{3}{2}$
36. $y = 3x + 4 \Rightarrow 3x - y = -4$
37. $y = \frac{3}{4}x + 10 \Rightarrow 3x - 4y = -40$
38. $y = -\frac{3}{2}x + 0.3 \Rightarrow 3x + 2y = 0.6$

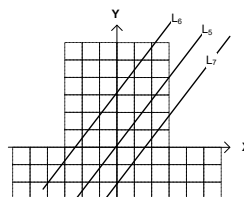
39. $y = -2x - 5 \Rightarrow 2x + y = -5$



40.



41.



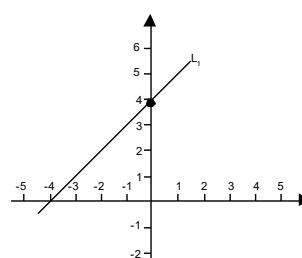
42.

43. slope = -2, $y = -2x + 9$

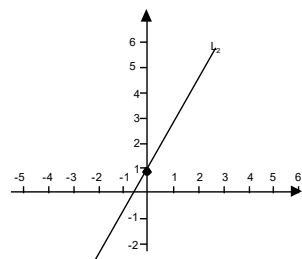
44. slope = -5, $y = -5x + 6$

45. slope = 4, $y = 4x - 5$

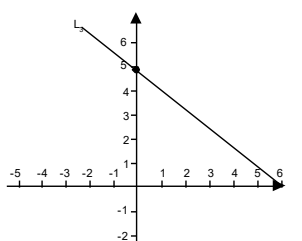
46. slope = 1, $y = x - 3$



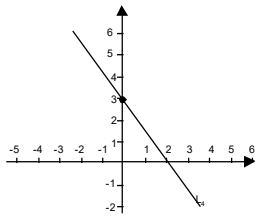
47.



48.



49.

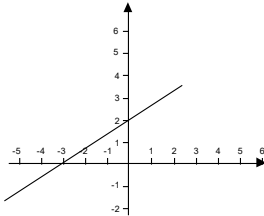


50.

51. Rewrite it as the slope-intercept form:

$$y = \frac{2}{3}x + 2$$

The slope is $\frac{2}{3}$ and the y-intercept is 2. The graph is as below.



52. $y = 4x - 5$

53. $y = 4x - 1$

54. $y = -3x + 2$

55. $y = 10x - 1$

56. $y = 3x - 10$

57. $y = 5x - 3$

58. M: $y = 3x + 2$

N: $y = \frac{-1}{3}x + 12$

59. slope = -4

$$y = -4x + 3$$

60. slope = 2

$$y = 2x - 4$$

61. slope = -3/5

$$y\text{-intercept} = 6/5$$

62. slope = $\frac{1}{2}$

$$y\text{-intercept} = 2.5$$

63. $y = x + 4$

64. $y = 2x + 4$

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

66. $y = -2x + 6$

67. $y = -2x - 2$

68. $y = \frac{-2}{3}x - 2$

69. $y = 4$

70. $\frac{x}{6} + \frac{y}{8} = 1$

$$x\text{-intercept} = 6 \text{ and } y\text{-intercept is } 8.$$

71. $x\text{-intercept (} y = 0 \text{)} 12 \div 8 = 1.5$

$$y\text{-intercept (} x = 0 \text{)} 12 \div -3 = -4$$

72. Slope = $-\frac{3}{4}$
 $x\text{-intercept} = 4$
 $y\text{-intercept} = 3$

73. Slope = $\frac{4}{3}$
 $x\text{-intercept} = 3$
 $y\text{-intercept} = -4$

74. Slope = $\frac{2}{3}$
 $x\text{-intercept} = -3$
 $y\text{-intercept} = 2$

75. Slope = $\frac{5}{2}$
 $x\text{-intercept} = 4$
 $y\text{-intercept} = -10$

76. $2x + 3y = -7$

77. $4x - 3y + 24 = 0$
 $4x - 3y = -24$
 $\frac{x}{-6} + \frac{y}{8} = 1$

78. $x\text{-intercept} = -6$
 $y\text{-intercept} = 8$

79. $\frac{1}{2}(6 \times 8) = 24$

80. $\sqrt{6^2 + 8^2} = 10$

81. Quadrant VI

82. $\frac{x}{-12} + \frac{y}{16} = 1$

83. $y = -3x + 6$

84. $y = \frac{1}{2}x + 4$

85. $y = \frac{-4}{7}x - \frac{26}{7}$

86. $y = x + 1$

87. $\frac{1}{3}x + \frac{1}{4}y = 1$

88. $3x + 2y = -1$

89. $y + 3x - 6 = 0$

90. $x = 3$

91. Since $1 \cdot -3 = -2 \cdot 6$, they are parallel.

92. Since the slope of the first line is $-\frac{2}{3}$ and the second one has slope $= \frac{3}{2}$, thus they are perpendicular.

93. Both have the same slope 3, so they are parallel.

94. They are neither parallel nor perpendicular.

95. They are neither parallel nor perpendicular.

96. They are perpendicular since the first one is horizontal and the second one is vertical.

97. The slope is $\frac{1}{4}$. Thus, the line must be
 $x - 4y + c = 0$.

Since passing through (1, -4), we have

$$(1) -4(-4) + c = 0$$

$$17 + c = 0$$

$$c = -17$$

The equation of the line is $4x - y - 8 = 0$.

98. The perpendicular line must be

$$4x + y + c = 0.$$

Since it passes through (1, -4), we have

$$4(1) + (-4) + c = 0$$

$$c = 0$$

Thus, $L_2: 4x + y = 0$.