# Answer Key

1. 6
2. 16
3. 12
4. 3
5. 2
6. 6
7. 10
8. 3
9. 10
10. 28
11. 9
12. 5
13. 8
14. 2
15. 4
16. 5
17. 6
18. 15
19. 6
20. 4
21. 4
22. 2
23. 3
24. 21
25. 6
26. 7
27. 49
28. 8
29. 64
30. 9
31. 12 + 5 – 7 = 10
32. 122 - 55 = 67
33. 28÷2 = 14 people
34. 7 - 4.75 = $2.25
35. 94÷15 = 6 R4
    6 dolls
36. 60÷20 = 3
    3×5 = 15 gal
37. 45×2 = 90
    90÷30 = 3 gal
38. 20÷4 = $5.00
39. 6 - 2 = 4
    4×7 = 28
40. 24000÷12 = 2,000
    2500 - 2000 = $500
41. $12\times\frac{1}{2} = 6$
    $27\times\frac{1}{3} = 9$
    6 + 9 = 15
    12 + 27 - 15 = 24 marbles
42. 75÷25 = 3 (pg per min)
    300÷3 = 100 min
43. 7 + 5 = 12
    18 - 12 = 6 tables
44. 20 - 2 = 18
    18÷3 = $6
45. 10 ÷ 2 = 5
    5 - 2 = 3 (right)
    5 + 2 = 7 (left)
46. (a) $33 (b) $15 (c) $60
47. 42÷6 = 7
    7×7 = 49 days
48. 2×3 + 3 = 9
    18÷9 = 2
    3×2 = $6.00
49. $1 - \frac{1}{4} = \frac{3}{4}$
    $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$
    $2\div\frac{1}{4} = 2\times4 = 8$ meters
50. (a) $\frac{1}{2}\times\frac{1}{2}$ = 1/4 pizza
    (b) $\frac{1}{2} - \frac{1}{4} = \frac{1}{4}$, $\frac{1}{4}\div3$ = 1/12 each
    (c) $\frac{1}{2} + \frac{1}{12}$ = 7/12(yourself)
51. $\frac{1}{5}$ = 1/5
52. 3×25 - 75
    75 - 70 = 5¢
53. $\frac{1}{5}\times65 = 13$
    65 + 13 = 78 lb
54. 3×10 = 30
    30 - 12 - 13 = 5 years old
55. 999,999
56. 20 min = $\frac{1}{3}$ hour
    3×3 = 9 (quarts an hour)
    9×3 = 27 quarts
57. 60
58. 3×4×9 = 108 cookies
59. 2010 - 1981 = 29
60. 48

# MAP 230 (T1) Issue 6

61. 70

62. $64 \div 2 = 32$
    $32 \div 2 = 16$
    $16 \div 2 = 8$
    $8 \div 2 = 4$
    $4 \div 2 = 2$
    $2 \div 2 = 1$
    Ans = 2 & 1

63. $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 = 55$
    Ans = 10 rows needed

64. $24 \times \frac{1}{4} = 6$
    $24 - 6 = 18$

65. T: $3 \times 25 = 75$
    R: 50
    B: $40 + 10 = 50$
    C: 51
    $75 + 50 + 50 + 51 = \underline{\$2.26}$

66. $1\frac{1}{2} \times 4 \times 32 = 128 + 64 = \underline{192}$

67. $\frac{3}{4} \times 56 + \frac{2}{3} \times 36$
    $= 42 + 24$
    $= \underline{66}$

68. $4 \times 13 = 52$ (total)
    $52 - 3 \times 12 = 16$

69. $4 \times 2.5 = 10$
    $10 - 7 = \underline{\$3}$

70. $10 \times 2 \times 12 = 240$ boxes

# Answer Key

1. F
2. 15
3. 0.6
4. 0.008
5. .1
6. 0.81
7. 2000
8. 7R2
9. 20%
10. 75%
11. 13
12. 1.8
13. {1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84}
14. 6
15. A
16. $4\frac{5}{6}$= 4 5/6
17. 750
18. 33
19. $10\frac{1}{4}$
20. 75
21. B
22. C
23. C
24. A
25. C
26. B
27. D
28. A
29. C
    $\frac{5}{11} \approx 0.45$
    A) $\frac{3}{8} = 0.375$
    B) $\frac{3}{7} \approx 0.42$
    C) $\frac{5}{9} \approx 0.55$
    D) $\frac{4}{7} \approx 0.56$
30. D
31. B
32. C
33. D
34. C
35. D
36. C
37. B
38. C
39. B
40. D
41. 200 – 69 = 131
42. 6× 7 = 42
43. (a) 7×2 = 14
    (b) 8×2 = 16
    (c) 2×9 = 18
44. (a) 60×(3/4) = 45
    (b) 60×(3/4) = 45
45. 20.00 – 2×5.50 = 9
46. (34+26)/2 = 30
47. D
48. (a) 35/5 = 7
    (b) 35/5 = 7
49. (a) 37 (b) 53 (c) J
50. (a) 12×(3/4) = 9
    (b) 12×(1 – 3/4) = 3
51. 90 – 57 = 33
52. 2×9/6 = 3
53. (a) 6+3+3 = 12
    (b) 6×3×3 = 54
54. $20 \times \frac{3}{5} = 12$
55. 55×3 = 165
56. 2×30 = 60
57. (a) 270/(8+ 1)×8 = 240
    (b) 270/(8+ 1) = 30
58. (a) 54×4/(4+5) = 24
    (b) 54×5/(4+5) = 30
59. (2×43 – 72) = 14
60. 6×(6/4) = 9
61. .375
62. (560 – 500) ÷ 5 – 1 = 11
63. $\frac{5}{8}$ = 5/8
64. $\frac{7}{8}$ = 7/8
65. 123.4
66. 20
67. 200 ÷ 9 = 22R2
    Ans = 22 & 2 (R)
68. 240
69. 112

70. 5×12 = 60
    60 – 4 = 56
    56÷7 = 8 weeks
71. 50 + 10 = 60
    60 ÷ 2 = 30
72. 8:20 am + 2:50 = 11:10 am
73. 12,436 + 10,658 = 23,094
74. 8×2 = 16
75. C
    24÷7 = 3R3
    Monday – 3 = Friday
76. 12×(3+4+5) = 144
77. 137 – 122 = 15
    15÷5 = 3 nickels
78. 100 + 8×(16 – 10) = 148 cm
79. 4×6 = 24
    4 + 6 = 10
80. 30
    8 in (A) & 10 in (B) & 7 in (C) & 5 in (D)

# Answer Key

1. .04
2. .004
3. .0004
4. 1
5. 0.1
6. 0.01
7. 0.001
8. 24,000
9. 0.024
10. 111,111
11. 25%
12. 400%
13. 37.5
14. 288
15. 0.8
16. 20
17. 1024
18. 1.25
19. 20
20. 625
21. D
22. D
23. C
24. C
25. B
26. A
27. B
28. 244, 235
29. C
30. B
31. C
32. B
33. A
34. C
35. A
36. D
37. D
38. C
39. C, D
40. B
41. $\frac{15}{4}=\frac{60}{16}$
    A = 16
42. 160000
43. 576
44. sum = 3×15 = 45
    5 + 10 + ☐ = 45
    ☐ = 30
45. $\frac{11}{30}$ = 11/30
46. 13 – 14 + 15 – 16 + 17 – 18 + 19
    = 13 + (-14 + 15) + (-16 + 17) + (-18 + 19)
    = 13 + 1 + 1 + 1
    = 16
47. 5 & 5 (R)
48. 96
49. 5.40
50. 200÷10 = 20 (length)
    perimeter = 2(10 + 20) = 60 in
51. 8×4.75 = 8×4¾ = 32 + 6 = 38
52. C
53. 1 + 4 + 9 + 16 = 30
54. 540000÷(15×60)
    = 540000÷900
    = 5400÷9
    = 600
55. 80×2 = 160
    160 ÷ 10 = 16 in
56. A
57. A
    $\frac{3}{5}$ = 0.6 (Issac)
    ½ = 0.5 (Jake)
    0.55 (Keith)
58. ½ + ¼ = ¾
    1 – ¾ = ¼
    64×¼ = 16
59. 74 ÷ 6 = 12 R 2
    12 + 1 = 13 tables
60. 100×60 = 6000 sq. yard
61. 60×(1 – 0.3) = 60×0.7 = $42
62. D
63. C
64. 3×5 = 15 mi
65. $16\frac{1}{8} - 1\frac{3}{4} = 14\frac{3}{8}$
    $14\frac{3}{8} \div 7 = 2\frac{3}{56}$ = 2 3/56

66. Method I)
Let $x$ be the number of students.
$4x + 10 = 5(x - 2) - 10$
$4x + 10 = 5x - 20$
$x = 30$
Method II)
$2\times4 + 10 = 18$ (leftover books if 2 students take none)
$18\times(5 - 4) + 10 = 28$ (number of students who take 5 books)
$28 + 2 = 30$ (total number of students)

67. $2\times20 = 40$ ft per minute
1000 yd = 3000 ft
$3000\div40 = 75$ min $= 1\frac{1}{4} = 1$ 1/4 hr

68. LCM(4, 6) = 12

69. $T = D/S = 300/50 = 6$ (hr)

70. $191\times2 + 1 = 382 + 1 = 383$

71. .00005

72. $\frac{180}{45}\times(4 + 3.5) = 30$ hrs

73. $\frac{7}{16} = 7/16$

74. $15\div(3^2 - 2^2) = 3$
$5 + 3 = 8$
$8\div2 = 4$

75. 300-60 = 240
$240\div5 = \$48.00$

76. $10/80 = \frac{1}{8} = 0.125 = 12.5\%$

77. $5\times4 =$ 20 words
Note that the order does matter in this problem.
The first set has 10 words:
AB, AC, AD, AE,
BC, BD, BE,
CD, CE,
DE.
The second set also has 10 words: BA, CA, DA, EA, CB, DB, EB, DC, EC, and, ED. (Each word in the second set is nothing but the reverse of a word from the first set.)

78. Let AB mean that Alex is the chair and Ben is the vice-chair. Ans = 20 possible outcomes

79. The order does not matter in this problem.
Ans = 10 outcomes
AB, AC, AD, AE, BC, BD, BE, CD, CE, and DE.

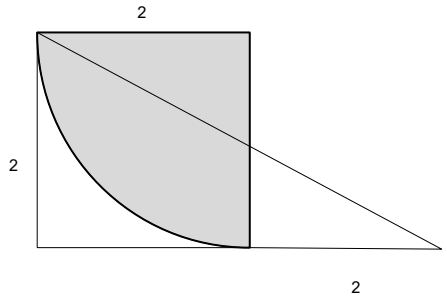
80. The order does not matter. Ans= 10 matches needed
RY, RG, RB, RW, YG, YB, YW, GB, GW, and BW.

81. 12 outcomes
Let us use W, B, G, and R to represent the four students: Wei, Bob, Gary, and Rob. A pair "WB" means Wei is the president and Bob is the treasurer. There are 12 possible pairs
WB, WG, WR,
BG, BR,
GR.
and
BW, GW, RW,
GB, RB,
RG.

82. 16 outcomes
There are 4 additional cases to the previous answer.
WW,
BB,
GG,
RR.

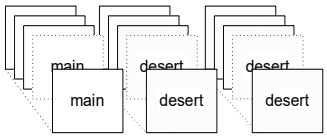
# Answer Key

1. 169
2. 17956
3. 196
4. 256
5. 289
6. 324
7. 361
8. 576
9. 676
10. 729
11. 784
12. 2.56
13. 25600
14. 5.76
15. 57600
16. 16900
17. 3.61
18. 2.89
19. 57600
20. 0.0729
21. area = $\frac{1}{4}(2^2\pi) = \pi$




22. 8
23. 2
24. D
    The current unit price is \$1.50÷2 = \$0.75. The ratio of the old price to the current price is 0.90:0.75=6:5
25. B
    $\frac{\text{new price}-\text{old price}}{\text{new price}} = ⅔ = 66⅔\%$
26. C
    The winning percentage is $\frac{\#\text{winning games}}{\#\text{total games}} = \frac{24+12}{44+16} = \frac{36}{60} = 0.60 = 60\%$
27. B
    $0.36x = 162 \Rightarrow x = 162/0.36 = 450$
28. C
    $2525\times.16 = 404$
29. B
    3:15 P.M.
    = 15:15 A.M., so 3:15 P.M. – 11:30 A.M.
    = 15:15 A.M. – 11:30 A.M.
    = 3 hr 45 min
    Then,
    3 hr 45 min + 25 min
    = 3 hr 70 min
    = 4 hr 10 min
30. D
    Let $x$ = base; $x + 2.5$ = height. Therefore, we have
    $x(x + 2.5) = 9$
    $2x^2 + 5x - 18 = 0$
    $(x - 2)(2x + 9) = 0$
    $x = 2$, the base (-4.5 is ridiculed)
    The height = $x + 2.5 = \boxed{4.5}$
31. B
    $(r + 1)^2\pi - r^2\pi = (2r + 1)\pi = 17\pi$
    $2r + 1 = 17$
    $r = 8$
    $r + 1 = 9$
    $2\times9\pi = \boxed{18\pi}$
32. C
    $\frac{\text{butter}}{\text{sugar}} = \frac{8}{3} = \frac{12}{x}$
    8x = 36
    x = 4.5
33. B
    72% – 18% = 54%
34. C
    $\frac{6-4}{4}$= ½ = 50%
35. C
    The ratio between Alex's money Brian's money is 3:2, thus Alex receives $\frac{3}{5}$ of the gift money, which is $180\times\frac{3}{5}$= 108.
36. C
    40÷4 = 10, 48÷4 = 12, 122 – 102 = 44
37. D
38. B
39. B
    $(0.6\times2⅓)^2 = 1.42 = 1.96$
40. B

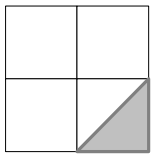
41. 1 + 20% = 1.2
    60×1.2 = $72
42. 5%×72 = 3.6 (tax)
    (72+3.6)×2 = 75.6×2 = $151.20
43. Prob(red) = $\frac{5}{8}$
    Prob(blue) = $\frac{1}{8}$
    Prob(yellow) = 2/8 = $\frac{1}{4}$
    48×$\frac{1}{4}$ = 12
44. $\frac{15}{90}$×180 = 30
45. 60÷2 = 30 (half-perimeter)
    Since the ratio is 2:1, the partition is $\frac{2}{3}$ and $\frac{1}{3}$.
    30×$\frac{2}{3}$ = 20 (length)
    30×$\frac{1}{3}$ = 10 (width)
    20×10 = 200 ft$^2$ (area)
46. $\frac{14}{6}$×9 = $\frac{7}{3}$×9 = $21
47. 8:00 + 7:25 + 4:30 + 6:15+4:35 = 34:45 = 30$\frac{3}{4}$ hr
    30$\frac{3}{4}$×12 = $369
48. 84×$\frac{1}{3}$×$\frac{3}{4}$ = 21
49. 1 – 20% = 0.8
    30×.8 = $24
50. 1 foot = 12 inches
    8 feet = 96 inches
    96÷10 = 9.6 (hr)
    8÷3 = **2**R2
    30×**2** = 60 min = 1 hr (Charlie rests twice.)
    9.6 + 1 = 10.6 = 10 hr & 36 min
51. 12÷16 = $\frac{3}{4}$ = 3/4 lb
52. 25%×24 = $\frac{1}{4}$×24 = 6 hr
53. B
    5/6 = 35/42 (A speed)
    6/7 = 36/42 (B speed, faster)
54. 2 + 6 = 8
    3 + 5 = 8
    8×8 – 18 = 46
55. the total of first 4 tests = 82 + 82 + 76 + 92 = 332
    the total of five tests = 86×5 = 430
    the fifth test = 430 – 332 = 98
56. 1200
57. 1600
58. 100000
59. 3
60. 0.4
61. 0.02
62. 7
63. 1800
64. 3
65. 4000
66. 0.08
67. 27000
68. 0.02
69. 160000
70. 7
71. 2000
72. 3
73. 15000
74. 6
75. 120000
76. $\frac{39-30}{30}$ = 0.3 = 30%
77. $\frac{3}{8}$×6 = $\frac{3}{4}$×3 = 2$\frac{1}{4}$ = 2 1/4
78. 24 cards (main) & 48 cards (dessert)
    In every 3 cards, there will be 1 card for main dish and 2 cards for desert. Since there are 72 cards, there are 24 cards for main dish and 48 cards for desert.



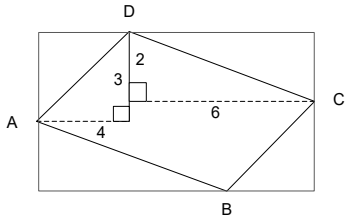

79. 1:30 + 4:00+ 3:00 = 8:30 P.M.
80. 9:00 – 4:00 + 3:00 = 8:00 P.M.
81. 1 + 1 + 2 = 4 (shares)
    180°÷4 = 45°
    Ans = 45° & 45°& 90°
82. C
83. D
    23 – 3 = 20
    20 – 3×4 = 8
    8÷4 = 2 (4-leg tables)
    1 + 4 = 5 (3-leg tables)
84. BC$^2$ = BD$^2$ + CD$^2$
    25$^2$ = 20$^2$ + 15$^2$
    BD = 20
    $\frac{1}{2}$(20)(30) = 300
85. 3 + 6 = 9
    9÷24 = $\frac{3}{8}$ = 37.5%
86. 24 – 6 = 18 hr
87. They are grandma, mom, and daughter.
88. 240 ÷ 40 = 6 hr
89. 1 – 20% = 0.8
    90×0.8 = 72 mph
90. **400**×75% = 300
    or
    300÷75% = 300×$\frac{4}{3}$ = 400

# Answer Key

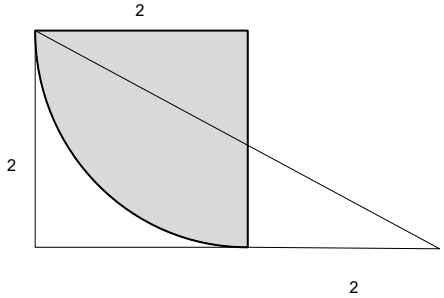
1. $\frac{14}{25}=\frac{56}{100}$ = 56%
2. 10
3. 400
4. $\frac{2}{3}\times 60 = 40$
5. 5
6. 30÷40 = 0.75 = 75%
7. $\frac{36}{48}=\frac{3}{4}$
8. 12
9. 80%
10. 125%
11. 9
12. 65
13. 12
14. 14
15. 0.14
16. $8\frac{1}{12}$
17. $\frac{1}{7}+\frac{1}{3}\div\frac{49}{30}=\frac{1}{7}+\frac{10}{49}=\frac{17}{49}$
18. $\frac{8}{3}\times\frac{15}{4}\times\frac{51}{10}=51$
19. $\frac{1}{9}$
20. $\frac{18\times\frac{240}{288}}{6}=3\times\frac{240}{288}=3\times\frac{5}{6}=2\frac{1}{2}$
21. D
22. D
23. A
24. D
25. B
26. A
27. D
    $6\times1.5^2 = 6\times2.25 = 13.5$
28. C
29. B
30. D
31. A
32. C
33. C
34. A
35. Diamond Dialogue Company
    $y = 0.50x + 40$
    Sound Service Phone Company
    $y = 0.20x + 85$
36. $0.5x + 40 = 0.2x + 85$
    $0.3x = 45$
    $x = 150$
37. $45
    DDC = 0.5×300 + 40 = 190
    SSPC = 0.2×300 + 85 = 145
    190 – 145 = 45
38. 999
39. 72 (sq ft)
    $\frac{1}{2}\times\frac{1}{2}\times\frac{1}{2}=\frac{1}{8}$
    $\frac{1}{8}\times576 = 72$ (sq ft)



40. $\begin{bmatrix}-1 & 9\\ 6 & 2\end{bmatrix}$
41. 5×10 – (12 + 12) = 26 s




42. $13^2 - 2\times72 = 25$
43. ΔBDE has a height of 10 to the side DE. So, the area is
    $\frac{1}{2}(10)(4) = 20$
44. area = $\frac{1}{4}(2^2\pi) = \pi$




45. 8

46. 2

47. N/A

48. $\frac{1}{2}(8 + 16)\times h = 12\times h = x^2$
$h = 3$
$x = 6$
$4\times 6 = 24$

49. -42

50. $7\frac{1}{3}$

51. $5^8 = (5^2)^4 = 25^4$
$\square = 4$

52. 27

53. 640

54. 120

55. $9\frac{1}{3}$

56. $\frac{7}{15}$

57. $400\times 60\% = \$240$

58. $400 - 240 = \$160$

59. $2{,}000\times 0.95 = 1{,}900$
$1{,}900\times 0.05 = \$95.00$

60. $60\div 1.2 = 50$

61. -0.008

62. $\pi - 3 + 4 - \pi = 1$

63. 0.0081

64. $2\frac{2}{3} + 3\frac{3}{4} - 5\frac{1}{10}$
$= 2 + 3 - 5 + \frac{2}{3} + \frac{3}{4} - \frac{1}{10}$
$= \frac{2}{3} + \frac{3}{4} - \frac{1}{10}$
$= 1\frac{19}{60} = 1\ 19/60$

65. 180

66. $26\times 40 = 1040$ (miles)
$26 - 6 = 20$
$1040\div 20 = 52$ miles per hour
$52 - 40 = 12$ mph faster

67. $180\div 3 = 60$ mi

68. $60\times 4 = 240$ mi

69. 10:11

70. $30\times 2 + 5\times 2 + 4(15 - 5)$
$= 60 + 10 + 40$
$= 110$

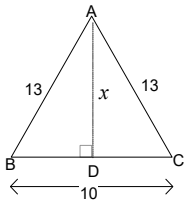
71. $17\div 2.5 = 6.8$
$3\times 6.8 = 20.4 = 21$ bushels will be enough.

72. 14.4

73. $13\times 1.3 = \$16.90$

74. $6\times 6 = 8\times$**4.5**
Ans = 4.5 hr

75. BD = 5
AD = 12
Area = ½(10×12) = 60




76. $.8\times 0.9 = 0.72$ (left to pay)
$1 - 0.72 = 0.28 = 28\%$

77. CD = 4
AB = 5
Perimeter = 21

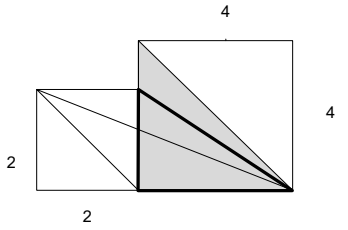
78. $100\div 2 = 50$
$50 - 5 = 45$
$45\div(1 + 2) = 15$
width = 15
length = $5 + 2\times 15 = 35$
$15\times 35 = 525$ in$^2$

79. $\frac{4\times 3}{10\times 9} = \frac{2}{5\times 3} = \frac{2}{15}$

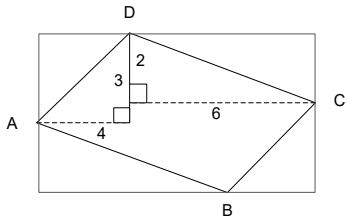
80. $6\div 1.5 = 4$
$4 + 1 = 5$
$5\times 78 = 390$
$\frac{390}{65}\times 3 = 18$

# Answer Key

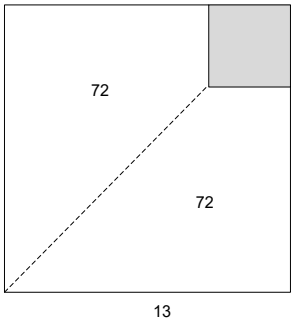
1. 12
2. 11
3. 1/8
4. .1111
5. 0.00032
6. 5.25
7. 102.01
8. 14641
9. 8/11
10. 0.4
11. 64
12. 14/21 = 2/3
13. $3.5 + 4.333\ldots + 5.25 = 13.08\overline{3}$
14. 2021
15. 4221
16. $2^2 \times 5^2$
17. 52
18. $400 + 44 \times 4 = 576$
    Ans = 57
19. 14
20. $x = 8$
21. 10
22. 8



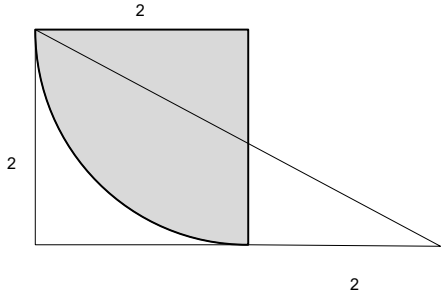

23. $5 \times 10 - (12 + 12) = 26$ s



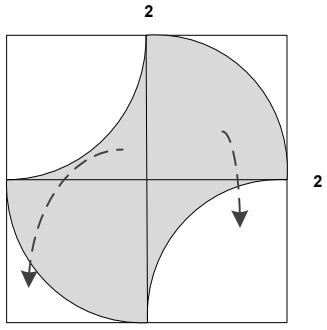

24. $13^2 - 2 \times 72 = 25$




25. ΔBDE has a height of 10 to the side DE. So, the area is
    $\frac{1}{2}(10)(4) = 20$
26. N/A
27. $200 \times 192 + 16 = 38416$
28. area = $\frac{1}{4}(2^2\pi) = \pi$



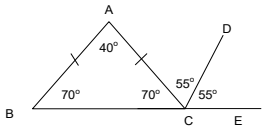

29. 2




30. 90, 90, 90.
31. B
    $12 \div \frac{3}{4} = 16$

# MAP 280 (T1) Issue 6

32. $\frac{2}{3} - \frac{1}{2} = \frac{1}{6}$
$\frac{2}{3} \div \frac{1}{6} = 4$
$4 \times 7 = 28$
$33 - 28 =$ 5 pounds
33. C
34. D
35. B
36. C
37. D
38. B
39. D
40. C
41. D
42. A
43. D
44. D
45. C
95, 106, 106, 106, **113**, 117, 117, 127, 142
46. B
$3 - \frac{2}{3} - \frac{3}{2} = \frac{3}{2} - \frac{2}{3} = \frac{5}{6}$
47. C
48. C
There are $5 \times 5 = 25$ outcomes. Among them, (1, 2), (1, 3), (1, 5), (2, 1), (3, 1), and (5, 1) yield prime products. So, the probability is $\frac{6}{25}$.
49. A
\$30÷75% = \$40
50. $4 \times 5 = 20$
$20 \div 6 = 3$ R 2
51. $4^6 = (4 \times 4)^3 = 16^3$
Ans = 3
52. 4/3
53. $0.5x + 1 = 0.2x + 10$
$0.3x = 9$
$x = 30$
54. $17 \div 25 = 0.68 = 68\%$
55. 4 lb 6 oz = $4\frac{6}{16} = 4\frac{3}{8}$lb
$0.4 \times 4\frac{3}{8} =$ \$1.75
56. $60 \div 2 = 30$
$60 - 20 = 10$ (width)
old area $= 20 \times 10 = 200$
Since each has the same increase,
$40 \div 4 = 10$.
new length $= 20 + 10 = 30$
new width $= 10 + 10 = 20$
new area $= 30 \times 20 = 600$
the increase of area is $600 = 200 = 400$ in$^2$
57. $485 + 55 = 540$
$540 \div 9 =$ \$60.00
58. $120 \times 4 =$ \$480 (regular)
2,400 – 480 = \$1,920 (balcony)
$1920 \div 8 = 240$ (balcony seats)
59. $3\frac{1}{2} \times 5 = 17.5$
$20 - 17.5 = 2\frac{1}{2} = 2\ 1/2$ in
60. $\frac{1}{2}(20^2 - 10^2)\pi$
$= \frac{1}{2} \times 300\pi$
$= 300 \times 1.57$
$= 471$ cm$^2$
61. $(x - \frac{1}{2})^2 = 16$
$x - \frac{1}{2} = \pm 4$
$x = \frac{1}{2} \pm 4 = 4\frac{1}{2}$ or $-3\frac{1}{2}$
Ans = -3.5 & 4.5 (in increasing order)
62. A
63. $60/(\frac{1}{2} + \frac{3}{4}) = 48$ mph
64. $12 + 18 = 30$
25% + 15% = 40%
$40\% \times 30 = 12$
$12 - 3 = 9$ more hits
65. 5 ft 4 in = $5\frac{1}{3}$ ft
$5\frac{1}{3}:6 = 16:18 = 8:9$
66. $4 \times 100 + 7 \times 20 =$ \$540
67. Each side of Square A is $36 = 6 \times 6$, its perimeter is $4 \times 6 = 24$. The perimeter of Square B is $24 - 12 = 12$, each side is $12 \div 4 = 3$ in, the area is $3 \times 3 = 9$ in$^2$.
68. $4 \times 5 = 20$
69. In the rectangle, the length is twice the width, the width is 10 cm. The area of the two combined circles is $2(10^2)\pi = 200\pi = 200$ pi
70. (1, 1), (1, 2), (2, 1), and (2, 2)
$\frac{4}{36} = \frac{1}{9} = 1/9$
71. 11
72. $-(-2)^3 = 8$
73. $x + 3 = \pm 6$
$x = -3 \pm 6 = -9$ or 3
74. $\square = 3$
75. -2
76. C
$(-y)(-y)^2(-y)^3(-y)^4(-y)^5 = -y^{15}$
77. 4 min = $\frac{1}{15}$hour
$\frac{\text{distance}}{\text{time}} = \frac{\frac{2}{3}}{\frac{1}{15}} = 10$ mph
78. $180 - 2(180 - 2 \times 55) = 40$



79. Method I)
75% = $\frac{3}{4}$
$(60+32)\times\frac{3}{4} = 69$
$69 - 49 = 29$

Method II)
$\frac{40+x}{60+32} = 75\% = \frac{3}{4}$
$160 + 4x = 276$
$4x = 116$
$x = 29$

80. Since $MO^2 + MD^2 = OD^2$, we have
$3^2 + 4^2 = OT^2$
OT = 5 (radius)
Thus, the area is $25\pi = 25$ pi

81. $\frac{18}{40}$=0.45 hour = 0.45×60 min = 27 min

82. B
$3x - 2y = 13$

83. B

84. 900÷6 = 150

85. $13^2 = 5^2 + 12^2$
BD = 12
(12, ___, 20) = 4(3, __, 5) = 4(3, 4, 5)
CD = 16
area(ΔABC) = ½(AC)(BD) = ½(12)(5 + 16) = 126