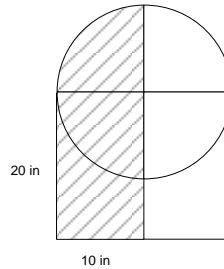


Answer Key

1. $-1/8$
2. $-3/4$
3. -2
4. $5/3$
5. $9/8$
6. $Y = 5/9X - 11/3$
7. $Y = 2/7X - 8/7$
8. $Y = -1/5X - 9/5$
9. $-X - 2Y = 1$
10. $-3X - 2Y = 11$
11. $x^2 + 7x - 18$
12. $x^2 - 3x + 2$
13. $x^2 + 2x - 8$
14. $x^2 + 4x - 12$
15. $x^2 - x - 2$
16. $(8x + 3)(6x - 1)$
17. $(5x + 3)(3x - 4)$
18. $2(3x + 4)(4x - 3)$
19. $-(8x - 7)(6x + 1)$
20. $-2(x - 3)(8x + 5)$
21. $x^2 + 2x + 1$
22. $x^2 + 4x + 4$
23. $x^2 - 6x + 9$
24. $x^2 + 8x + 16$
25. $x^2 + 10x + 25$
26. $(6x - 2)^2$
27. $(6x + 4)^2$
28. $(9x + 0.4)^2$
29. $(2x - 1)^2$
30. $(9x + 3)^2$
31. $(2.25 \times 4)^2 = 9^2 = 81$
32. $\sqrt{15} \times \sqrt{35} \times \sqrt{21}$
 $= \sqrt{3 \times 5} \times \sqrt{5 \times 7} \times \sqrt{7 \times 3}$
 $= 3 \times 5 \times 7$
 $= 105$
33. C
34. $240 - 6 + 7 = 241$
35. $4^{60} \div 2^{30} = 2^{120} \div 2^{30} = 2^{90} = 8^{30}$
 $\square = 30$
36. C
37. $2(x + 1/4) = x - 1/2$
 $x = -1$
38. $13 \div 65 = .2 = 20\%$
39. $125.6 \div 3.14 = 40$ in (diameter)
 $40 \div 2 = 20$ in (radius)
 $3.14 \times 20^2 = 1256$ in² (area)
40. $80 \div 10 = 8$
 $8 \times 8 \times 4 = 256$ cm²
41. bigger : smaller = 2 : 1
 $2 + 1 = 3$
 $2/3$: bigger one
 $1/3$: smaller one
 $2/3 \times 48 = 32$ balls
42. Method I)
 $\frac{2}{7} + \frac{1}{2}(\frac{2}{7}) = \frac{4.5}{7}$
 $126 \times \frac{4.5}{7} = 18 \times 4.5 = 81$

 Method II)
 $126 \times \frac{2}{7} = 36$
 $126 - 36 = 90$
 $\frac{1}{2} \times 90 = 45$
 $45 + 36 = 81$
43. $250 + 150 \times 12 = 2050$ (total)
 $2050 - 1875 = \$175.00$
44. Flip the lower quarter circle fill up the left side.
 $20 \times 10 = 200$ in²
 $\frac{1}{4}(10^2 \times 3.14) = 78.5$
 $200 + 78.5 = 278.5$ in²



45. B = (5, 13)
46. C = (11, 13)
47. D = (14, 5)
48. B
49. $7.2 \times 7.5 = \$54$
50. $60\sqrt{2} = 84.84$ ft
51. $12 \times 3 \times 7 = 252$
52. $(2.5 \times \square) \times 4.6 = 5 \times 92$
 $(2.5 \times \square) = 5 \times 20$
 $\square = 2 \times 20 = 40$

MAP 280 (T1) Issue 8

53. $3t^2 + 30t = 72$
 $t^2 + 10t = 24$
 $(t+12)(t-2) = 0$
 $t = -12 \text{ \& } 2$
54. C
55. $-(35 \times 45 \times 0.04)$
 $= -(70 \times 90 \times 0.01)$
 $= -63$
56. $-48 \times 2 + 4 = -92$
57. 604
58. $\frac{1}{2}(180 - 70) = 55$
 $x = 70 + 55 = 125$ (exterior angle theorem)
 or
 $x = 180 - 55 = 125$ (supplementary angle)
59. Let x oz of 34%-solution and $(15 - x)$ oz of 22%-solution are mixed. Then, we have
 $.34x + .22(15 - x) = .30(15)$
 $.12x = .08 \times 15$
 $x = 10$
60. Area $\triangle BEF = \frac{1}{2} \times \frac{3}{4} \times \frac{4}{5} = \frac{3}{10}$.
 Area shaded $= \frac{7}{10} = 70\%$
61. $Avg = \frac{B_{tot} + G_{tot}}{5} = \frac{120 + 120}{5} = 48$ lbs
62. $\frac{480}{6+4} = 48$ mph
63. $5x^2 - 30x + 45$
 $= 5(x^2 - 6x + 9)$
 $= 5(x - 3)^2$
 $= 5 \times 2^2$
 $= 5 \times 0.2 \times 0.2$
 $= 0.2$
64. $(10-2) \times 180 / 10 = 144$
65. $x^2 + y^2$
 $= (x + y)^2 - 2xy$
 $= 100 - 40$
 $= 60$
66. A
 $(x - y)^2$
 $= x^2 + y^2 - 2xy$
 $= x^2 + 2xy + y^2 - 4xy$
 $= (x + y)^2 - 4xy$
 $= 10^2 - 80$
 $= 20$
 $x - y = 2\sqrt{5}$
67. Each square is 2 by 2.
 The diameter is $2\sqrt{10}$.
 The radius is $\sqrt{10}$.
 So, the area of the circle is $10\pi = 10 \text{ pi}$
68. Let $\angle A = a$, $\angle C = 8a$ and $\angle B = 8a + 10$. Since the sum of three interior angles is 180° , we have
 $\angle A + \angle B + \angle C = 180^\circ$
 $a + (8a + 10) + 8a = 180$
 $17a = 170$
 $a = 10$
69. $\frac{60}{20} + \frac{60}{40} = 3 + \frac{3}{2} = 4\frac{1}{2}$ hrs
 $\frac{\text{total distance} = 120}{\text{total time} = 4\frac{1}{2}} = 26\frac{2}{3} = 26 \frac{2}{3}$ mph
70. D
71. 1 chopped, then 5 grow, or 4 added
 6 chopped, then 30 grow, or 24 added.
 $5 + 30 - 6 = 29$
72. $1 + 36 = 37$
 $1 \times 36 = 36$
 $36 - 1 = 35$
73. B
 $55 = 5 \times 11$
 $57 = 3 \times 19$
 $51 = 3 \times 17$
 $49 = 7 \times 7$
 $91 = 7 \times 13$
74. walk: 0.4 hr = 24 min
 run: 14 min
 $24 - 14 = 10$ min longer
75. $1 + 2 + 4 = 7$
 $1 \times 2 \times 4 = 8$
76. $2 + 83 = 85$
 $2 \times 83 = 166$
77. B
78. $180 + 180 - 90 = 270^\circ$
79. 840
80. There are $C_2^6 = 15$ games.
 Each game has a winner.
 $4 + 3 + 2 + 2 + 2 + \square = 15$
 $\square = 2$
 Monica must have won 2 games.
 The following is an example for the outcomes of the tournament.

	H	I	J	K	L	M
H			0	0	0	0
I	1		0	0	0	1
J	1	1		1	0	0
K	1	1	0		1	0
L	1	1	1	0		0
M	0	0	1	1	1	
Won by column	4	3	2	2	2	2