

# Answer Key

1.  $y = 4.5x + 2$
2.  $y = -1.6x - 9.6$
3.  $y = 0.5x + 2$
4.  $y = \frac{5}{3}x + 9$
5.  $y = -2x + \frac{1}{3}$
6. 2
7. 1
8.  $\frac{4}{9}$
9.  $-\frac{1}{3}$
10.  $-\frac{2}{3}$
11.  $Y = -2X - 2$
12.  $Y = -5X - 8$
13.  $Y = 2X + 6$
14.  $-5X + 4Y = 9$
15.  $2X - 3Y = 14$
16.  $x^2 + 4x - 45$
17.  $x^2 - 7x + 10$
18.  $3x^2 - 15x + 15$
19.  $4x^2 - 16x - 20$
20.  $-0.5x^2 - 1.5x + 20$
21.  $\frac{1}{3}x^2 - x - \frac{10}{3}$
22.  $9x^2 - 81x + 180$
23.  $2x^2 - 15x + 27$
24.  $4x^2 - 9$
25.  $-2x^2 - 5x + \frac{8}{9}$
26.  $(x - 3)(8x - 5)$
27.  $(2x - 3)(4x - 5)$
28.  $(3x - 2)(7x - 6)$
29.  $-7(2x + 1)(4x - 3)$
30.  $-10(5x - 8)(6x + 5)$
31.  $x = -4$
32.  $x = 2$
33.  $x = -1$
34.  $x = 1$
35.  $10 - 0.4x + 1 = 3$   
 $\Rightarrow -0.4x + 11 = 3$   
 $\Rightarrow -0.4x = -8$   
 $\Rightarrow x = 20$
36.  $t = 32$   
 $4(\frac{1}{4}t + \frac{1}{2}t) = 4(24)$   
 $t + 2t = 96$   
 $3t = 96$   
 $t = 32$
37.  $\frac{1}{2}x - \frac{3}{5} = \frac{3}{4}$   
 $\Rightarrow \frac{10}{20}x - \frac{12}{20} = \frac{15}{20}$   
 $\Rightarrow 10x - 12 = 15$   
 $\Rightarrow 10x = 27$   
 $\Rightarrow x = 2.7$
38. Multiply 6 to both sides. We have  
 $6(\frac{1}{2}x - \frac{4}{3}) = -5$   
 $\Rightarrow 3x - 8 = -5$   
 $\Rightarrow 3x = 3$   
 $\Rightarrow x = 1$
39.  $x = 2$
40. Multiply both sides by 6, then we get  
 $30 - 2(2x - 3) = 3(3x - 1)$   
 $30 - 4x + 6 = 9x - 3$   
 $36 - 4x = 9x - 3$   
 $13x = 39$   
 thus  $x = 3$
41.  $(2\frac{2}{3} + 3\frac{3}{4}) \div 5\frac{1}{10} = \frac{77}{12} \times \frac{4}{7} = 3\frac{2}{3} = 3\frac{2}{3}$
42.  $\sqrt{3 \times 3 \times 25} = 15$
43. 40
44.  $25^3 = (5^2)^3 = (5^3)^2 = 125^2$   
 Ans = 125
45.  $7 + (-8 + 9) + (-10 + 12) + (-13 + 16) + (-17 + 21)$   
 $= 7 + 1 + 2 + 3 + 4$   
 $= 17$
46.  $8\text{ ft } 3\text{ in} = 8\frac{3}{4}\text{ ft}$   
 $8\frac{3}{4} \times 4 \times \square = 66$   
 $\square = 2\text{ ft}$
47. The value after the first depreciation is  
 $\$4,125 \times (1 - 20\%) = \$3,300$   
 The value after the second year depreciation is  
 $3,300 \times (1 - 20\%) = \$2,640$
48.  $100 - 64 = 36$  ( $\frac{1}{2}$  of water)  
 $\frac{1}{2} + \frac{1}{6} = \frac{2}{3}$   
 $36 \div \frac{2}{3} = 12$   
 $64 + 12 = 76\text{ lb}$
49.  $\frac{1020}{\frac{36}{306}} = \frac{85}{3} = 28\frac{1}{3}$   
 $\frac{1020}{\frac{306}{3}} = \frac{10}{3} = 3\frac{1}{3}$   
 $\frac{85}{3} - \frac{10}{3} = 25\text{ hr}$

## MAP 280 (T1) Issue 11

50.  $100 \times 2 - 8 \times 4$   
 $= 200 - 32$   
 $= 168$
51.  $12,000 - 4,440 = 7,560$   
 $7,560 \div 70 = 108$   
 $108 \div 12 = 9 \text{ yr}$
52.  $7x - 6 = 29$   
 $\Rightarrow 7x = 35$   
 $\Rightarrow x = 5$
53. 1 yard = 3 ft  
 15 yards = 45 ft =  $45 \times 12 = 540 \text{ in}$   
 $540 \div 27 = 20 \text{ pieces}$
54.  $625 = 25^2$   
 $25 \times 2 = 50$   
 $4 \times 50 = 200 \text{ in}$
55.  $3 + 1 = 4$   
 $3 \div 4 = 75\%$
56. distance = speed  $\times$  time  
 $1 \text{ min} = \frac{1}{60} \text{ hr}$   
 $30 \times \frac{1}{60} = \frac{1}{2} \text{ mile}$
57.  $230 \div 40 = 5.75 = 5 \text{ hr \& } 45 \text{ min}$
58.  $30 \times 30 = 900 \text{ in}^2$
59.  $(1.62 - 1.50) \div 12 = 0.01$
60. T:S = 4:3  
 $56 \times \frac{4}{7} = 8$
61.  $4 \times 10^{21}$   
 Ans = 4 (for a) & 21 (for b)
62.  $-8x^6$   
 Ans = -8 & 6
63.  $\frac{5}{3} = 5/3$
64. 0.3
65.  $3 \times (100 \div 40) = \$7.50$
66.  $\frac{1}{2} - \frac{1}{3} = \frac{1}{6}$   
 $8 \div \frac{1}{6} = 48$  (the weight of whole wine when full)  
 $\frac{1}{2} \times 48 = 24$   
 $68 - 24 = 44 \text{ pounds}$
67.  $\frac{5}{50} = \frac{1}{10} \text{ hour} = 6 \text{ min}$   
 $5:00 + 0:06 = 5:06 \text{ P.M.}$
68. C
69. C
70. C  
 $-1 = -1$
71.  $13 + 11 = 24$  (to cover 100 km round-trip)  
 $36 \div 24 = 1.5$   
 $1.5 \times 100 = 150 \text{ km (distance)}$
72. 55
73. Let  $x$  be the width.  
 $(8 + 2x)(6 + 2x) - 48 = 32$   
 Let  $y = 2x$   
 $(8 + y)(6 + y) = 80$   
 $y^2 + 14y + 48 = 80$   
 $y^2 + 14y - 32 = 0$   
 $(y - 2)(y + 16) = 0$   
 $y = 2$   
 $x = 1 \text{ yd} = 3 \text{ ft}$
74.  $-\frac{3}{4} = -3/4$
75.  $11:05 - 6:45 = 4:20 = 4\frac{1}{3} \text{ hrs}$   
 $65 \div 4\frac{1}{3} = 15 \text{ mph}$
76.  $6 \times 10^{-2}$
77.  $x = 1 \pm \sqrt{8} = 1 \pm 2\sqrt{2}$   
 sum = 2
78.  $100 \div 0.8 = \$125$
79. Each side = 8  
 $8^2 = 64$
80.  $\frac{4 \times 3}{10 \times 9} = \frac{2}{5 \times 3} = \frac{2}{15} = 2/15$