Lesson 13

1) AX = ABC
   X = BC

2) XY - B = Q
   XY = B + Q
   $X = \dfrac{B+Q}{Y}$

3) CDX + E = RD
   CDX = RD - E
   $X = \dfrac{RD-E}{CD}$

4) YX - YT = YZ
   X - T = Z
   X = Z + T

5) Q(X + B) = R(X + C)
   QX + QB = RX + RC
   QX - RX = RC - QB
   X(Q - R) = RC - QB
   $X = \dfrac{RC-QB}{Q-R}$

6) AX - BX - C = CX + X + E
   AX - BX - CX - X = E+ C
   X(A - B - C - 1) = E + C
   $X = \dfrac{E+C}{A-B-C-1}$

7) $\sqrt{32} = 5.7$

8) $\sqrt{150} = 12.2$

9) $\sqrt{75} = 8.7$

10) $\sqrt{481} = 21.9$

11) $L^2 + L^2 = H^2$
    $9^2 + 7^2 = H^2$
    $81 + 49 = H^2$
    $130 = H^2$
    $H = \sqrt{130}$

    between 11 and 12:

    $11^2 = 121$
    $12^2 = 144$

12) 11.4 ft.
    .4 x 12 = 4.8"
    to the nearest inch
    11'5"

Lesson 14

1) X + X + 20 = 144
   2X + 20 = 144
   2X = 124
   X = 62 on one shelf
   62 + 20 = 82 books on the other shelf
   62 + 82 = 144 books total

2) X boys went out for swimming
   X + 18 boys went out for baseball
   X + X + 18 = 48
   2X + 18 = 48
   2X = 30
   X = 15 boys for swimming
   X + 18 = 33 boys for baseball
   15 + 33 = 48 boys total

3) Lisa made X cards
   X + 3X = 32
   4X = 32
   X = 8 cards for Lisa
   8 · 3 = 24 cards for June
   24 + 8 = 32 cards total

4) P = 2L + 2W
   (40) = 2(16) + 2W
   40 = 32 + 2W
   8 = 2W
   4 = W
   2(4) + 2(16) = 40
   8 + 32 = 40
   40 = 40

5) J = number of dollars Jill earned
   J + 2J + 3J = $150
   6J = $150
   J = $25 for Jill
   2 · $25 = $50 for Joan
   3 · $25 = $75 for Deb
   $25 + $50 + $75 = $150 total

6) P = 2L + 2W
   22 = 2(X) + 2(X + 1)
   22 = 2X + 2X + 2
   20 = 4X
   X = 5 in. for the short side
   X + 1 = 6 in. for the long side
   2(5) + 2(6) = 10 + 12 = 22 in.