Test 11

1) addition; multiplication
2) subtraction; division
3) addition; multiplication
4) subtraction; division
5) $3X - 4$
6) $-9Y + 7$
7) $3X + 9$
8) $6B + 7$
9) $4A - 1 = 3A + 8$
   $4A - 3A = 8 + 1$
   $A = 9$
10) $4(9) - 1 = 3(9) + 8$
    $36 - 1 = 27 + 8$
    $35 = 35$
11) $1 + F + 3 + F = F + 5$
    $2F + 4 = F + 5$
    $2F - F = 5 - 4$
    $F = 1$
12) $1 + (1) + 3 + (1) = (1) + 5$
    $6 = 6$
13) $\frac{1}{\cancel{4}} \times \frac{\cancel{4}}{5} = \frac{1}{5}$
14) $\frac{7}{10} \div \frac{1}{2} = \frac{7}{\cancel{10}_{5}} \times \frac{\cancel{2}}{1} = \frac{7}{5} = 1\frac{2}{5}$
15) $\frac{3}{4} \div \frac{9}{10} = \frac{\cancel{3}}{\cancel{4}_{2}} \times \frac{\cancel{10}^{5}}{\cancel{9}_{3}} = \frac{5}{6}$
16) $L^2 + 9^2 = 15^2$
    $L^2 + 81 = 225$
    $L^2 = 225 - 81$
    $L^2 = 144$
    $L = 12$ ft.
17) ± 9
18) $B + 5 = 11$
    $B = 6$
19) $\frac{1}{2} \times \frac{2}{3} = \frac{2}{6} = \frac{1}{3}$
    $12 \div 3 = 4$ pink blooms
20) $\frac{3}{4} \div \frac{1}{8} = \frac{3}{\cancel{4}} \times \frac{\cancel{8}^{2}}{1} = \frac{6}{1} = 6$

Test 12

1) $15X + 25Y$
2) $7B + 8B = 15B$
3) $4CX + 3DX$
4) $9Q + 9W$
5) $2XY + 2XY = 4XY$
6) $10AY + 12BY$
7) $10(X + Y)$
8) $A(8 + 11) = 19A$
9) $4X(Y + 2Z)$
10) $4(Q + R)$
11) $5(A + 5B)$
12) $D(A + C)$
13) $-A - 22 = -2A - 30$
    $-A + 2A = -30 + 22$
    $A = -8$
14) $-(-8) - 22 = -2(-8) - 30$
    $-14 = 16 - 30$
    $-14 = -14$
15) $Y - 12 = 2Y - 4$
    $-12 + 4 = 2Y - Y$
    $-8 = Y$
16) $(-8) - 12 = 2(-8) - 4$
    $-20 = -16 - 4$
    $-20 = -20$
17) $\frac{4}{16} = \frac{1}{4}$
18) $\frac{10}{16} = \frac{5}{8}$
19) $\frac{14}{16} = \frac{7}{8}$
20) $7X + 5X = 11X - 15$
    $12X = 11X - 15$
    $12X - 11X = -15$
    $X = -15$

Test 13

1) $4X = -124$
   $X = -31$
2) $4(-31) = -124$
   $-124 = -124$
3) $-7Q + 6 + 5Q = 15 - 7$
   $-2Q = 8 - 6$
   $-2Q = 2$
   $Q = -1$
4) $-7(-1) + 6 + 5(-1) = 15 - 7$
   $7 + 6 + (-5) = 8$
   $8 = 8$
5) $3(P + 5) + P = 3(2 + P)$
   $3P + 15 + P = 6 + 3P$
   $4P + 15 = 6 + 3P$
   $4P - 3P = 6 - 15$
   $P = 6 - 15$
   $P = -9$
6) $3((-9) + 5) + (-9) = 3(2 + (-9))$
   $3(-4) - 9 = 3(-7)$
   $-12 - 9 = -21$
   $-21 = -21$
7) $2(A + 4) + 6A = 2(2 + 3A)$
   $2A + 8 + 6A = 4 + 6A$
   $8A + 8 = 4 + 6A$
   $8A - 6A = 4 - 8$
   $2A = -4$
   $A = -2$
8) $2((-2) + 4) + 6(-2) = 2(2 + 3(-2))$
   $2(2) + (-12) = 2(2 + (-6))$
   $4 - 12 = 2(-4)$
   $-8 = -8$
9) $\frac{7}{16}$
10) $\frac{12}{16} = \frac{3}{4}$
11) $\frac{8}{16} = \frac{1}{2}$
12) $\frac{\cancel{X}}{\cancel{8}_{4}} \times \frac{\cancel{8}}{\cancel{X}} = \frac{1}{4}$
13) $\frac{4}{5} \div \frac{1}{9} = \frac{4}{5} \times \frac{9}{1} = \frac{36}{5} = 7\frac{1}{5}$
14) $\frac{5}{6} \div \frac{4}{12} = \frac{5}{\cancel{6}} \times \frac{\cancel{12}^{2}}{\cancel{4}_{2}} = \frac{5}{2} = 2\frac{1}{2}$
15) $1\frac{12}{20} + 2\frac{15}{20} = 3\frac{27}{20} = 4\frac{7}{20}$
16) $3\frac{7}{42} + 5\frac{12}{42} = 8\frac{19}{42}$
17) $9\frac{1}{2} + 4\frac{1}{2} = 13\frac{2}{2} = 14$
18) $2X + 8 = 16$
    $2X = 16 - 8$
    $2X = 8$
    $X = 4$
19) $4^2 + L^2 = 5^2$
    $16 + L^2 = 25$
    $L^2 = 25 - 16$
    $L^2 = 9$
    $L = 3$ mi.
20) 1