1) \[ \frac{10}{a} = \frac{6}{8} \]
\[ 80 = 6a \]
\[ 6 = \frac{6}{a} \]
\[ 13.3 = a \]

3) \[ \frac{7}{6} = \frac{2}{k} \]
\[ 7k = \frac{12}{7} \]
\[ k = 1.71 \]

5) \[ \frac{6}{x - 2} = \frac{8}{2} \]
\[ \frac{12}{8} = \frac{8x}{8} \]
\[ 1.5 = x \]

7) \[ \frac{m-1}{5} = \frac{8}{2} \]
\[ 2(m-1) = 40 \]
\[ 2m - 2 = 40 \]
\[ \frac{2m}{2} = \frac{42}{2} \]
\[ m = 21 \]

9) \[ \frac{2}{9} = \frac{10}{p-4} \]
\[ 2(p-4) = 90 \]
\[ 2p - 8 = 90 \]
\[ \frac{2p}{2} = \frac{98}{2} \]
\[ p = 49 \]

11) \[ \frac{b-10}{7} = \frac{b}{4} \]
\[ 4(b - 10) = 7b \]
\[ 4b - 40 = 7b \]
\[ \frac{-4b}{4} = \frac{3b}{3} \]
\[ -13.3 = b \]

13) \[ \frac{x}{5} = \frac{x+2}{9} \]
\[ 9x = 5(x + 2) \]
\[ 9x = 5x + 10 \]
\[ -5x - 5x \]
\[ \frac{4x}{4} = \frac{10}{4} \]
\[ x = 2.5 \]

15) \[ \frac{3}{10} = \frac{a}{a+2} \]
\[ 3(a + 2) = 10a \]
\[ 3a + 6 = 10a \]
\[ -3a - 3a \]
\[ \frac{6}{7} = \frac{7a}{7} \]
\[ 0.86 = a \]

17) \[ \frac{v-5}{v+6} = \frac{4}{9} \]
\[ 9(v - 5) = 4(v + 6) \]
\[ 9v - 45 = 4v + 24 \]
\[ -4v - 4v \]
\[ 5v - 45 = 24 \]
\[ + 45 + 45 \]
\[ \frac{5v}{5} = \frac{69}{5} \]
\[ v = 13.8 \]

19) \[ \frac{7}{x-1} = \frac{4}{x-6} \]
\[ 7(x - 6) = 4(x - 1) \]
\[ 7x - 42 = 4x - 4 \]
\[ -4x - 4x \]
\[ \frac{3x - 42}{-4} \]
\[ + 42 + 42 \]
\[ \frac{3x}{3} = \frac{38}{3} \]
\[ x = 12.67 \]
21) \[
\frac{x+5}{5} = \frac{6}{x-2}
\]
\[(x + 5)(x - 2) = 30
\]
x^2 + 5x - 2x - 10 = 30
\[
x^2 + 3x - 10 = 30
\]
-30 -30
\[
x^2 + 3x - 40 = 0
\]
(x + 8)(x - 5) = 0
x + 8 = 0 \quad x - 5 = 0
\]
-8 -8 +5 +5
\]
x = -8 \quad x = 5

23) \[
\frac{m+3}{4} = \frac{11}{m-4}
\]
\[(m + 3)(m - 4) = 44
\]
m^2 - 4m + 3m - 12 = 44
\[
m^2 - m - 12 = 44
\]
-44 -44
\]
m^2 - m - 56 = 0
\]
(m - 8)(m + 7) = 0
m - 8 = 0 \quad m + 7 = 0
\]
+8 +8 -7 -7
\]
m = 8 \quad m = -7

25) \[
\frac{2}{p+4} = \frac{p+5}{3}
\]
6 = (p + 4)(p + 5)
6 = p^2 + 5p + 4p + 20
\[
6 = p^2 + 9p + 20
\]
-6 -6
\]
0 = p^2 + 9p + 14
0 = (p + 7)(p + 2)
p + 7 = 0 \quad p + 2 = 0
\]
-7 -7 -2 -2
\]
p = -7, -2

27) \[
\frac{n+4}{3} = \frac{-3}{n-2}
\]
\[(n + 4)(n - 2) = -9
\]
n^2 - 2n + 4n - 8 = -9
\]
\[n^2 + 2n - 8 = -9
\]
+9 +9
\]
n^2 + 2n + 1 = 0
\]
(n + 1)^2 = 0
n + 1 = 0
\]
-1 -1
\]
n = -1

29) \[
\frac{3}{x+4} = \frac{x+2}{5}
\]
15 = (x + 4)(x + 2)
\]
15 = x^2 + 2x + 4x + 8
15 = x^2 + 6x + 8
\]
-15 -15
\]
0 = x^2 + 6x - 7
0 = (x + 7)(x - 1)
x + 7 = 0 \quad x - 1 = 0
\]
-7 -7 +1 +1
\]
x = -7 \quad x = 1

31) The currency in Western Samoa is the Tala. The exchange rate is approximately $0.70 to 1 Tala.
At this rate, how many dollars would you get if you exchanged 13.3 Tala?
\[
\overline{\frac{\text{T}}{\text{S}}} = \frac{1}{0.70} = \frac{13.3}{x}
\]
x = $ 9.31
39) Kali reduced the size of a painting to a height of 1.3 in. What is the new width if it was originally 5.2 in. tall and 10 in. wide?
\[ \frac{h}{w} = \frac{5.2}{10} = \frac{1.3}{x} \]
\[ x = 2.5 \text{ in} \]

41) A bird bath that is 5.3 ft tall casts a shadow that is 25.4 ft long. Find the length of the shadow that a 8.2 ft adult elephant casts.
\[ \frac{h}{s} = \frac{5.3}{25.4} = \frac{8.2}{x} \]
\[ x = 39.3 \text{ ft} \]

43) The Vikings led the Timberwolves by 19 points at the half. If the Vikings scored 3 points for every 2 points the Timberwolves scored, what was the half time score?
\[ \frac{V}{T} = \frac{(x+19)}{x} = \frac{3}{2} \]
\[ 2(x + 19) = 3x \]
\[ 2x + 38 = 3x \]
\[ -2x \quad -2x \]
\[ 38 = x \]
\[ Timberwolves: 38 \]
\[ Vikings: 57 \]

45) Computer Services Inc. charges $8 more for a repair than Low Cost Computer Repair. If the ratio of the costs is 3 : 6, what will it cost for the repair at Low Cost Computer Repair?
\[ \frac{CSI}{LCCR} = \frac{x+8}{x} = \frac{6}{3} \]
\[ 3(x + 8) = 6x \]
\[ 3x + 24 = 6x \]
\[ -3x \quad -3x \]
\[ 24 = 3x \]
\[ \frac{24}{3} = \frac{3x}{3} \]
\[ $8 = x \]