ESSENTIAL SKILLS INVOLVING FRACTIONS and ALGEBRAIC SIMPLIFICATION.

1. Simplify

(a) $3\left(\frac{x}{3} + 2\right)$

=

(b) $4\left(\frac{1}{2}x - \frac{3}{4}\right)$

=

(c) $6\left(\frac{5}{6}x + \frac{7}{2}\right)$

=

(d) $12\left(\frac{2}{3}x + \frac{1}{4}\right)$

=

(e) $8\left(\frac{3}{4}x + \frac{5}{8}\right)$

=

2. Complete the working to solve this equation.

$$\frac{3}{4}x - 1 = \frac{1}{6}x + \frac{2}{3}$$

Multiplying both sides by 12

$$12\left(\frac{3}{4}x - 1\right) = 12\left(\frac{1}{6}x + \frac{2}{3}\right)$$

3. Find c in each case :

(a) $5 = ½ + c$

(b) $4 = \frac{1}{2} \times 5 + c$

(c) $2 = \frac{3}{4} \times 5 + c$

(d) $8 = \frac{2}{3} \times 2 + c$

(e) $3 = -\frac{1}{4} + c$

(f) $2 = -\frac{3}{4} \times 3 + c$

(g) $-5 = -\frac{1}{2} \times 3 + c$

(h) $-4 = -\frac{3}{2} \times 5 + c$

(i) $12 = \frac{5}{8} \times 2 + c$

4. ***Using the equation :***

$$y = mx + c$$

find the value of c if :

(a) $m = 4,\ x = 3,\ y = 16$

(b) $m = -2, x = 4,\ y = -3$

(c) $m = \frac{2}{3},\ x = 12,\ y = 5$

(d) $m = -\frac{3}{5},\ x = 10, y = 1$

(e) $m = \frac{1}{5},\ x = 3,\ y = 2$

(f) $m = -\frac{2}{3},\ x = 1,\ y = 4$

(g) $m = -\frac{5}{4},\ x = -3,\ y = 6$