Algebra

1.   Simplify each of the following:

(a) $2(3x+5)-4(2-3x)+10$

(b) $4(5y-1)+3-2(y-1)-(-5-2y)$

(c) $\dfrac{3x+8}{6}+\dfrac{5-4x}{9}-\dfrac{x+2}{2}$

(d) $\dfrac{3}{4}(2x-5)+\dfrac{2}{5}(3-4x)-\dfrac{7}{10}(x+2)$

(e) $(2y-3)(3y-1)$

(f) $(5x-4)^2$

2.   Solve for x in the following equations:

(a) $2(2x+5)=8-(3x-9)$

(b) $8+4(x-1)-5(x-3)=2(5-2x)+8-(2x-4)$

(c) $\dfrac{1}{3}(3x-6)-\dfrac{1}{4}(5x+4)+\dfrac{1}{5}(2x-9)=-3$

(d) $\dfrac{3}{x-2}=\dfrac{4}{3x+4}$

(f) $\dfrac{3}{5}(3x-4)+\dfrac{3}{4}(2-2x)-\dfrac{3}{10}(4x+5)=0$

3.   Solve for x and y:

(a) $4x-3y=0$ (b) $5x+3y=29$
     $8x-9y=6$ $4x+7y=37$

(c) $2x+3y=5$ (d) $3x-2y=\ \ 0$
     $x-2y=7$ $4x+\ \ y=-11$

4.   Eight tradesmen and five labourers earn €7,995 between them to do a job. If a tradesman earns €78 more than a labourer, calculate the earnings for a tradesman and a labourer.

5.   Find the area of a rectangular room which has a perimeter of 16.2 m, if its length is one and a quarter times its width.

6. The length of a rectangle is four times greater than its width. If the width was 72 cm more and the length was 1.41m less, it would be a square. Find the dimensions of this rectangle.

7. Six Digital Camera batteries and three Camcorder batteries cost €96. If a Camcorder battery costs €5 more than a Digital Camera battery. Find the individual cost of a Camcorder battery and Digital Camera battery.

8. Twelve workmen on a building sie earn a total of €6,050 per week between them.Labourers earn €450 per week and Tradesmen earn €580 per week. How many of each is employed?