Substitution Exercise 5A Blue Books

6) $P = \dfrac{5w - 4y}{w + y}$

a) $w = 3,\ y = 2$ $\quad P = \dfrac{5(3) - 4(2)}{3 + 2} = \dfrac{7}{5}$

7 $\quad A = b^2 + c^2$

a) $b = 2,\ c = 3$ $\quad A = 2^2 + 3^2 = 13$

Exercise do 6b, 7b, 8b, 9b

6b) $P = \dfrac{5w - 4y}{w + y}$ $\quad w = 6,\ y = 4$

$$P = \frac{5(6) - 4(4)}{6 + 4} = \frac{14}{10} = 1.4$$

7b) $A = b^2 + c^2$ $\quad b = 5,\ c = 7$

$$A = 5^2 + 7^2 = 74$$

8b) $A = \dfrac{180(n-2)}{n+5}$ $\quad n = 3$

$$A = \frac{180(3-2)}{3+5} = \frac{180}{8} = \frac{45}{2}$$

9b) $z = \dfrac{y^2+4}{4+y}$ $\quad y = -6$

$$z = \frac{(-6)^2+4}{4+-6} = \frac{40}{-2} = -20$$

Expanding and Simplifying

Ex1 $\quad 3(2x-3) = 6x - 9$

Ex2 $\quad (5x+2)(3x-1)$

$= 15x^2 + 6x - 5x - 2$

$= 15x^2 + x - 2$

Exercise $\quad$ Expand and Simplify

1) $4(p+2q) = 4p + 8q$

2) $3(2x-7) = 6x - 21$

3) $2(x+2y+5) = 2x + 4y + 10$

4) $3(p-q) = 3p - 3q$

5) $5(3h+2k) = 15h + 10k$

6) $(x+7)(x+2) = x^2 + 7x + 2x + 14$

$= x^2 + 9x + 14$

7) $(m+1)(m+1) = m^2+m+m+1$
$= m^2+2m+1$

8) $(2p+3)(2p-1) = 4p^2+6p-2p-3$
$= 4p^2+4p-3$

9) $4(p+7)+2(p-3) = 4p+28+2p-6$
$= 6p+22$

10) $3(p+2q)-2(p+q) = 3p+6q-2p-2q$
$= p+4q$

Factorising

Ex1 $3p+6 = 3(p+2)$

Ex2 $6x^2+2x = 2x(3x+1)$

Exercise

1) $10x+15y = 5(2x+3y)$

2) $6p^2q+4pq^2 = 2pq(3p+2q)$

3) $8xy+4yz = 4y(2x+z)$

4) $5x-10y+5 = 5(x-2y+1)$

5) $3pqr+6qr^2 = 3qr(p+2r)$

Homework for Wed 11 Sep 19

2 Expand and simplify.

a $3(4 + t) + 2(5 + t)$

c $4(3 + 2f) + 2(5 - 3f)$

3 Expand and simplify.

a $4(3 + 2h) - 2(5 + 3h)$

c $5(5k + 2) - 2(4k - 3)$

4 Expand and simplify.

a $m(4 + p) + p(3 + m)$

c $4r(3 + 4p) + 3p(8 - r)$

5 Expand and simplify.

a $t(3t + 4) + 3t(3 + 2t)$

c $4e(3e - 5) - 2e(e - 7)$

6 Expand and simplify.

a $4a(2b + 3c) + 3b(3a + 2c)$

c $5m(2n - 3p) - 2n(3p - 2m)$