

# Assignments for Algebraic Exercise 3

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## Question 1

Carry out the multiplication of the expressions in each of the following pairs.

(a)  $4x, 2x + 2y + z$

(b)  $pq, p - q + 1$

(c)  $a - b, 7a^2b^2$

(d)  $pq + qr + rp + 1, 0$

e)  $a^{10} \times (2a^{32}) \times (9a^{26})$

f)  $(2xy/3) \times (-9x^2y^2/10)$

g)  $(-10pq^3/3) \times (p^3q/5 + 1)$

h)  $(a) \times (a^2) \times (a^3) \times (a^8) \times (a^{16})$

i)  $(2p + 1), (4p - 3)$

j)  $(x - 2), (3x - 8)$

k)  $(12.5p - 0.5m), (1.5l + 0.5m)$

l)  $(a + 3b), (a + 5 + 1)$

m)  $(x + y + z)(x + y - z)$

## Question 2

The Length and Breadth of a rectangle is  $2p$  and  $2(p+q)$ . The area of the rectangle is

a)  $4p + 4pq$

b)  $16pq$

c)  $4p^2 + 4pq$

d) None of these

### Question 3

(a) Simplify  $3(4x - 5) + 9x$  and find its values for (i)  $x = 1$  (ii)  $x = 0$

(b) Simplify  $a(a^2 + a + 1) + 5$  and find its value for (i)  $a = 1$ , (ii)  $a = 1/2$  (iii)  $a = -1/2$ .

### Question 4

(a) Add:  $p(p - q)$ ,  $q(q - r)$ ,  $r(r - p)$ ,  $2pq + 2pr + 2qr$

(b) Add:  $2x(z - x - y)$  and  $2y(z - y - x)$

(c) Subtract:  $3l(l - 4m + 5n)$  from  $4l(10n - 3m + 2l)$

(d) Subtract:  $3a(a + b + c) - 2b(a - b + c)$  from  $4c(-a + b + c)$

e) Product of  $(x + 7y)$  and  $(7x - y)$

f) Product of  $(a^2 - b)$  and  $(a^2 + b^2)$

g) Product  $(x^2 - y^2)(2x + 3y)$