H.W 7/10/21

Ch-20

SUBSTITUTION

Ex-20(A)

Q3 Find the value of:

(i) $4pq \times 2r$, when $p=5, q=3$ and $r=\frac{1}{2}$

$= 4 \times 5 \times 3 \times 2 \times \frac{1}{2}$

$= 60$

(ii) $\frac{gx}{z}$, when $x=8$, $y=4$ and $z=16$

$= \frac{4 \times 8}{16}$

$= \frac{32}{16}$

$= 2$

(iii) $\frac{a+b-c}{2a}$, when $a=5$, $b=7$ and $c=2$

$= \frac{5+7-2}{2 \times 5}$

$= \frac{12-2}{10}$

$= \frac{10}{10}$

$= 1$

Ex-20(B)

Q2. Simplify:

(i) $12x - (5x + 2x)$

$= 12x - 7x$

$= 5x$

(ii) $10m + (4n - 3n) - 5n$

$= 10m + n - 5n$

$= 10m - 4n$

(iii) $(15b - 6b) - (8b + 4b)$

$= 9b - 12b$

$= -3b$

(iv) $-(-4a - 8a)$

$= -(-12a)$

$= 12a$

(v) $x - (x - y) - (-x + y)$

$= x - x + x + y - y$

$= x$

(vi) $p + (-q - r - s) - (p - q - r)$

$= p - q - r - s - p + q + r$

$= p - p - q + q - r + r - s$

$= -s$

(vii) $(a + b) - (c + d) - (e - f)$

$= a + b - c - d - e + f$

(viii) $3x + (8x - 5x) - (7x - x)$

$= 3x + 3x - 6x$

$= 6x - 6x$

$= 0$

(ix) $a - (a - b - c)$

$= a - a + b + c$

$= b + c$

(x) $6a^2 + (2a^2 - a^2) - (a^2 - b^2)$

$= 6a^2 + 2a^2 + a^2 - a^2 + b^2$

$= 6a^2 + b^2$

(xi) $2m-(3m+2n-6n)$

$= 2m - 2m - 2n + 6n$

$= -m + 4n$

$= 4n - m$

(xii) $-m-n-(-m)-m$

$= -m-n+m-m$

$= -m-n$

(xiii) $x+y-(x+y-x)$

$= x+y-(x+y-x)$

$= x+y-x-y+x$

$= x-x+x+y-y$

$= x$

(xiv) $25y-(5x-10y+6x-3y)$

$= 25y-5x+10y-6x+3y$

$= 25y+10y+3y-5x-6x$

$= 38y-11x$

(xv) $3x+(2x-\overline{x+2})$

$= 3x+(2x-x-2)$

$= 3x+2x-x-2$

$= 4x-2$

(xvi) $a-(2a-\overline{4a+3a})$

$= a-(2a-4a-3a)$

$= a-2a+4a+3a$

$= a+8a+3a-2a$

$= 8a-2a$

$= 6a$

(xvii) ~~$-(y-x)-(x+y-2x+y)$~~

~~$= 5x^2$~~

(xviii) $5x^2-(3x-\overline{x^2-4})$

$= 5x^2-3x+x^2+4)$

$= 5x^2-3x+x^2-4$

$= 5x^2+x^2-3x-4$

$= 6x^2-3x-4$

(xviii) $-(y-x)-(x+y-\overline{2x+y})$

$= -(y-x)-(x+y-2x-y)$

$= -(y+x)-x-y+2x+y$

$= x-x+2x-y-y+y$

$= 2x-y$

Ex- 20(c)

Q1) Fill in the blanks:

(i) $2a+b-c = 2a+(\underline{b+c})$

(ii) $3x-z+y = 3x-(\underline{z-y})$

(iii) $6p-5x+q = 6p(\underline{5x-q})$

(iv) $a+b-c+d = a+(\underline{b-c+d})$

(v) $5a+4b+4x-2c = 4x-(\underline{2c+5a-4b})$

(vi) $7x+2z+4y-3 = -3+4y+(\underline{7x+2z})$

(vii) $3m-2n+6 = 6-(\underline{2n-3m})$

(viii) $2t+x-p-q+s = 2t+x-(\underline{p+q-s})$