classmate
Date 7·9·21
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Homework

Exercise - 20 (A)

3. Find the value of :

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

Solution:

$= 4 \times 5 \times 3 \times 2 \times 1/2$

$= 60 \times \frac{1}{2}$

$= 60$

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

solution :

$= \frac{4 \times 8}{16} = \frac{32}{16} = 2$

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

$= \frac{5 + 7 - 2}{2 \times 5} = \frac{10}{10} = 1$

Exercise - 20 (B)

2. Simplify :

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(xvi) $5x^2 - (3x - x^2 - 4)$

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

Solution:

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

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

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

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

(xi) $2m-(3m+2n-6n)$
$= 2m-3m-2n+6m$
$= -m+4n = 4n-m$

(xii) $-m-n-(-m)-m$
$= -m-n+m-m = -m-n$

(xiii) $x+y-(x+\overline{y-x})$
$= x+y-(x+y-x)$
$= x+y-x-y+x$
$= x-x+x+y-y = x$

(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) $a-(2a-4a+3a)$
$=a-(2a-4a-3a)$
$=a-2a+4a+3a=8a-2a=6a$

(xvii) $5x^2-(3x-x^2-y)$
$=5x^2-(3x-x^2+y)=5x^2-3x+x^2-y$
$=5x^2+x^2-3x-y=6x^2-3x-y$

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

Exercise -20(c)

1. Fill in the blanks :

(i) $2a+b-(=2a+(b-c)$
(ii) $3x-z+y=3x-(2z-y)$
(iii) $6p-5x+q=6p-(5x-q)$
(iv) $a+b-c+d=a+(b-c+d)$
(v) $5a+4b+4x-x=4x-(2c-5a-4b)$
(vi) $7x+2z+4y-3=-3+4y+(7x+2z)$
(vii) $3m-2n+6=6-(2n-3m)$
(viii) $2+\pi-p-q+s=2+(p+q-s)$