Homework

Exercise 20 (A)

2. i) $4pq \times 2r$
$= 4 \times 5 \times 3 \times 2 \times \frac{1}{2}$
$= 60 \times 1 = 60$

ii) $\frac{4x}{2}$
$= \frac{4 \times 8}{16} = \frac{4}{2} = 2$

iii) $\frac{a+b-c}{2a} = \frac{5+7-2}{2 \times 5}$
$= \frac{10}{10} = 1$

Exercise 20 (B)

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

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

iii) $(15b - 6b) - (8b + 4b)$
$= 15b - 6b - 8b - 4b$
$= -3b$

iv) $-(-4a - 8a)$
$= 4a + 8a = 12a$

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

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

$= 3x+8x-5x-7x+x$

$= 0$

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

$= 2m-3m-2n+6n$

$= 4n-m$

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

$= -m-n+m-m$

$= -m+m-m-n$

$= -m-n$

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

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

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

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

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

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

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

$=8a-a-8a=6a$

xvii) ~~$5x^2-(3x-x^2-4)$~~

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

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

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

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

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

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

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

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

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

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

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

$=2x-y$

Exercise 20(c)

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