

i) $5 + 4 = 9$

$5x + 4x = 9x$

ii) $12 + 18 = 20$

$12x^2y + 18x^2y = 20x^2y$

iii) $7 + 16 = 23$

$7a + 16b = 7a + 16b$

iv) $1 + 3 = 4$

$x^2y + 3xy^2 = x^2y + 3xy^2$

v) $7 - 4 = 3$

$7ab - 4ab = 3ab$

vi) $12 - 5 = 7$

$12x - 5y = 12x - 5y$

vii) $35 - 16 = 19$

$35ab - 16ba = 35ab - 16ab = 19ab$

viii) $28 - 13 = 15$

$28ax^2 - 13a^2x = 28ax^2 - 13a^2x$

2) i) The sum of -2 and $-5 = -7$ and the sum of $-2x$ and $-5x = -7x$

ii) The sum of 8 and $-3 = 5$ and the sum of $-15x$ and $-4y$ and $8ab$ and $-3ab = 5ab$

iii) The sum of -15 and $-4 = -19$ and the sum of $-15x$ and $-4y = -15x - 4y$

iv) $15 + 8 + 3 = 26$ and $15x + 8y + 3x = 18x + 8y$

v) $12 - 9 + 15 = 18$ and $12ab - 9ab + 15ba = 18ab$

vi) $25 - 7 - 9 = 9$ and $25xy - 7xy - 9yx = 18xy - 9yx$

vii) $-4 - 6 - 5 = -15$ and $-4ax - 6ax - 5ay = 10ax - 5ay$

3-i) $8xy$ and $3xy$

$$8xy + 3xy = 11xy$$

ii) $2xyz + xyz + 6xyz = 9xyz$

iii) $2a + 3a + 4b = 5a + 4b$

iv) $3x + 2y = 3x + 2y$

v) $5m + 3n + 4p = 5m + 3n + 4p$

vi) $6a + 3a + 9ab = 9a + 9ab$

vii) $3p + 4q + 9q = 13q + 3p$

viii) $5ab + 4ba + 6b = 5ab + 4ba + 6b$

ix) $50pq + 30pq + 10pr = 80pq + 10pr$

x) ~~$-2y +$~~ $-2y + -y + -6y$

xi) $-3b + -b = -4b$

xii) $5b + -4b + -10b = -9b$

xiii) $-2c + -c + -5c = -8c$

4-1) $6a - a - 5a - 2a =$

$= 8a - 6a$

$= -2a$

ii) $2b - 3b - b + 4b$

$= 2b + 4b - 3b - b$

$= 6b - 4b$

$= 2b$

iii) $3x - 2x - 4x + 7x$

$= 3x + 7x - 2x - 4x$

$= 10x - 6x$

$= 4x$

iv) $5ab + 2ab - 6ab + ab$

$= 7ab + 7ab$

$= 14ab$

~~$\sqrt{5} \cdot (-7x + 9x + 2x - 2x)$~~

~~$8 =$~~

$8x - 5y - 3x + 10y$

$8x - 3x + 10y - 5y = 5x + 5y$

$$5) -7x + 9x + 2x - 2x$$

$$= 9x + 2x - 7x - 2x$$

$$= 11x - 9x$$

$$= 2x$$

$$ii) 5ab - 2ab - 8ab + 6ab$$

$$= 5ab + 6ab - 8ab - 2ab$$

$$= 11ab - 10ab$$

$$= ab$$

$$iii) -8a - 3a + 2a + 13a - 6a$$

$$= 2a + 13a - 8a - 3a - 6a$$

$$= 15a - (8 + 3 + 6)a$$

$$= 15a - 17a$$

$$= -2a$$

$$iv) 19abc - 11abc - 12abc + 14abc$$

$$= 19abc + 14abc - 11abc - 12abc$$

$$= 33abc$$