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Std. VII Div. Sec-B School Roll No. - 4279

Exercise 11B

1. Fill in the blanks

i) $8x + 5x = 13x$

ii) $8x - 5x = 3x$

iii) $6xy^2 + 9xy^2 = 15xy^2$

iv) $6xy^2 - 9xy^2 = -3xy^2$

v) The sum of 8a, 6a and 5b.
$= 14a + 5b$

vi) The addition of 5, 7xy and 6 and 3xy $= 11 + 10xy$

vii) $4a + 3b - 7a + 4b = -3a + 7b$

viii) $4a + 3b - 7a + 4b = -3a + 7b$

ix) $6x^2y + 13xy^2 - 4x^2y + 2xy^2 = 2x^2y + 15xy$

x) $16x^2 - 9x^2 = 7x^2$ and $25xy^2 - 17xy^2 = 8xy^2$

2. Add

i) $-9x$, $3x$ and $4x$
$= -9x + 3x + 4$
$= -9x + 7x = -2x$

ii) $23y^2$, $8y^2$ and $-12y^2$
$= 23y^2 + 8y^2 - 12y^2$
$= 31y^2 - 12y^2 = 19y^2$

iii) $18pq - 15pq$ and $3pq$
$= 18pq - 15pq + 3pq$
$= 3pq + 3pq = 6pq$

3. Simplify

i) $3m + 12m - 5m$
$15m - 5m = 10m$

ii) $7n^2 - 9n^2 + 3n^2$
$= (7 + 3)n^2 - 9n^2 = 10n^2 - 9n^2 = n^2$

iii) $25zy - 8zy - 6zy$
$25zy - 14zy = 11zy$

iv) $-5ax^2 + 7ax^2 - 12ax^2$
$= -17ax^2 + 7ax^2 = -10ax^2$

v. $-16am + 4mx + 4am - 15mx + 5am$

$= (-16 + 4 + 5)am + (4 - 15)mx$

$= -7am - 11mx$

4. Add

i) $a+b$ and $2a+3b$

$= a + b + 2a + 3b = a + 2a + b + 3b$

$= 3a + 4b$

ii) $2x+y$ and $3x-4y$

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

$= 5x - 3y$

iii) $-3a+2b$ and $3a+b$

$= -3a + 2b + 3a + b$

$= -3a + 3a + 2b + b$

$= 3b$

iv) $4+x, 5-2x$ and $6x$

$= 4 + x + 5 - 2x + 6x$

$= x - 2x + 6x + 4 + 5$

$= 5x + 9$

5. Find the sum of:

i) $3x+8y+7z$, $6y+4z-2x$ and $3y-4x+6z$

$= 3x + 8y + 7z + 6y + 4z - 2x - 4x + 6z$

$= 3x - 2x - 4x + 8y + 6y + 3y + 7z + 4z + 6z$

$= 9x - 6x + 17 + 17z$

$= -3x + 17y + 17z$

ii) $3a+5b+2c$, $2a+3b-c$ and $a+b+c$

$= 3a + 5b + 2c + 2a + 3b - c + a + b + c$

$= 3a + 2a + a + 5b + 3b + b + 2c - c + c$

$= 6a + 9b + 3c - c$

$= 6a + 9b + 2c$

iii) $4x^2 + 8xy - 2y^2$ and $8xy - 5y^2 + x^2$

$= 4x^2 + 8xy - 2y^2 + 8xy - 5y^2 + x^2$

$= 4x^2 + x^2 + 8xy + 8xy - 2y^2 - 5y^2$

$= 5x^2 + 16xy - 7y^2$

iv) $9x^2 - 6x + 7$, $5 - 4x$ and $6 - 3x^2$

$= 9x^2 - 6x + 7 + 5 - 4x + 6 - 3x^2$

$= 9x^2 - 3x^2 - 6x - 4x + 7 + 5 + 6$

$= 6x^2 - 10x + 18$

v. $5x^2 - 2xy + 3y^2$, $-2x^2 + 5xy + 9y^2$ and $3x^2 - xy - 4y^2$

$= 5x^2 - 2xy + 3y^2 - 2x^2 + 5xy + 9y^2 + 3x^2 - xy - 4y^2$

$= 5x^2 - 2x^2 + 3x^2 - 2x^2 + 5xy - xy + 3y^2 + 9y^2 - 4y^2$

$= 6x^2 + 2xy + 8y^2$

6. Find the sum of:

i) x and 3y

$= x + 3y$

ii) $-2a$ and $+5$

$= -2a + 5$

iii) $-4x^2$ and $+7x$

$= -4x^2 + 7x$

iv) $+4a$ and $-7b$

$= +4a - 7b$

v) x^3, $3x^2y$ and $2y^2$

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

vi) 11 and $-by$

$= 11 - by$

7. The side of a triangle are $2x + 3y$, $x + 5y$ and $7x - 2y$. Find its perimeter.

Side of triangle $= 2x + 3y$, $x + 5y$ and $7x - 2y$

$= 2x + 3y + x + 5y + 7x - 2y$

$= 2x + x + 7x + 3y + 5y - 2y$

$= 10x + 8y - 2y$

$= 10x + 6y$

8. The two adjacent sides of a rectangle are $6a+9b$ and $8a-4b$. Find its perimeter.

Sides of rectangle $= 6a+9b$ and $8a-4b$

Length $= 6a+9b$; breadth $= 8a-4b$

Perimeter $= 2(l+b)$

$= 2(6a+9b+8a-4b)$

$= 28a+10b$

Subtract the second expression from the first.

i) $2a+b, a+b$

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

$= 2a+b-a-b$

$= a$

ii) $-2b+2c, b+3c$

$= (-2b+2c)-(b+3c)$

$= -2b+2c-b-3c$

$= -3b-c$

iii) $5a+b, -6b+2a$

$= (5a+b)-(-6b+2a)$

$= 5a+b+6b-2a$

$= 3a+7b$

iv) $a^3-1+a, 3a-2a^2$

$= (a^3-1+a)-(3a-2a^2)$

$= a^3-1+a-3a+2a^2$

$= a^3+2a^3-2a-1$

v) $b+2, 1$

$= b+2-1$

$= b+1$

10. Subtract.

i) $4x$ from $8-x$

$= (8-x)-4x$

$= 8-x-4x$

$= 8-5x$

ii) $-8c$ from $c+3d$

$= (c+3d)-(-8c)$

$= c+3d+8c$

$= 9c+3d$

iii) $-5a - 2b$ from $b + 6c$

$= (b + 6c) - (-5a - 2b)$

$= b + 6c + 5a + 2b$

$= 5a + 3b + 6c$

iv) $5a - 3b + 2c$ from $4a - b - 2c$

$= (4a - b - 2c) - (5a - 3b + 2c)$

$= 4a - b - 2c - 5a + 3b - 2c$

$= -a + 2b - 4c$

iv) $4p + p^2$ from $3p^2 - 8p$

$= (3p^2 - 8p) - (4p + p^2)$

$= 3p^2 - 8p - 4p - p^2$

$= 2p^2 - 12p$