

EXERCISE 19(A)

1. Fill in the blanks :

(i) $5 + 4 = \dots 9 \dots$

and

$5x + 4x = \dots 9x \dots$

(ii) $12 + 18 = \dots 30 \dots$

and

$12x^2y + 18x^2y = \dots 30x^2y \dots$

(iii) $7 + 16 = \dots 23 \dots$

and

$7a + 16b = \dots 7a + 16b \dots$

(iv) $1 + 3 = \dots 4 \dots$

and

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

(v) $7 - 4 = \dots 3 \dots$

and

$7ab - 4ab = \dots 3ab \dots$

(vi) $12 - 5 = \dots 7 \dots$

and

$12x - 5y = \dots 12x - 5y \dots$

(vii) $35 - 16 = \dots 19 \dots$

and

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

(viii) $28 - 13 = \dots 15 \dots$

and

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

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Fundamental Operations

Ex. 19 A

2) Fill in the blanks:

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

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

iii) The sum of 8 and $-3 = 5$

iv) The sum of $8ab$ and $-3ab = 5ab$

v) The sum of -15 and $-4 = -19$

vi) The sum of $-15x$ and $-4y = -15x + (-4y)$

vii) $15 + 8 + 3 = 26$

viii) $15x + 8y + 3x = 18x + 8y$

ix) $12 - 9 + 15 = 18$

x) $18ab$

xi) 9 and $9xy$

xii) -15 and $-10ax - 5ay$

3) Add:

i) $8xy$ and $3xy$

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$$\begin{aligned}\text{ans} \rightarrow & 8xy + 3xy \\ & = (8 + 3)xy \\ & = 11xy\end{aligned}$$

$$\text{ii) } 2xyz + xyz + 6xyz$$

$$\begin{aligned}\text{ans} \rightarrow & 2xyz + xyz + 6xyz \\ & = (2 + 1 + 6)xyz = 9xyz\end{aligned}$$

$$\text{iii) } 2a, 3a \text{ and } 4b$$

$$\begin{aligned}\text{ans} \rightarrow & 2a + 3a \\ & = (2 + 3)a \\ & = 5a + 4b \\ & = 5a + 4b\end{aligned}$$

$$\text{iv) } 3x \text{ and } 2y$$

$$\text{ans} \rightarrow 3x + 2y$$

$$\text{v) } 5m, 3n \text{ and } 4p$$

$$\text{ans} \rightarrow 5m + 3n + 4p$$

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ii) $6a, 3a$ and $9ab$

$$\begin{aligned} \text{Ans} \rightarrow & 6a + 3a + 9ab \\ & = (6a + 3a) + 9ab \\ & = (6+3)a + 9ab \\ & = 9a + 9ab \end{aligned}$$

iii) $3p, 4q, 9q$

$$\begin{aligned} \text{Ans} \rightarrow & 3p + 4q + 9q \\ & = 4q + 9q + 3p \\ & = (4+9)q + 3p \\ & = 13q + 3p \end{aligned}$$

iii) $5ab, 4ba$ and $6b$

$$\begin{aligned} \text{Ans} \rightarrow & 5ab + 4ba + 6b \\ & = 5ab + 4ba + 6b \\ & = (5+4)ab + 6b \\ & = 9ab + 6b \end{aligned}$$

iv) $50pq, 30pq, 10pr$

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$$\begin{aligned}\text{Ans} \rightarrow & 50pq + 30pq + 10pr \\ & = 50pq + 30pq + 10pr \\ & = (50+30)pq + 10pr \\ & = 80pq + 10pr\end{aligned}$$

x) $-2y, -y$ and $-3y$

$$\begin{aligned}\text{Ans} \rightarrow & -2y + -y + -3y \\ & = (-2 + -1 + -3)y \\ & = -6y\end{aligned}$$

xi) $-3b$ and $-b$

$$\begin{aligned}\text{Ans} \rightarrow & -3b + -b \\ & = (-3 + -1)b \\ & = -4b\end{aligned}$$

xii) $5b, -4b$ and $-10b$

$$\begin{aligned}\text{Ans} \rightarrow & 5b + -4b + -10b \\ & = (5 + -4 + -10)b \\ & = -9b\end{aligned}$$

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xciii) $-2c, -c$ and $-5c$

Ans) $-2c - c - 5c$

$$= (-2 - 1 - 5)c$$

$$= -8c$$

4) Evaluate

i) $6a - a - 5a - 2a$

Ans) $= (6 - 1 - 5 - 2)a$

$$= -2a$$

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

Ans) $= (2 - 3 - 1 + 4)b$

$$= 2b$$

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

Ans) $= (3 - 2 - 4 + 7)x$

$$= 4x$$

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

Ans) $= (5 + 2 - 6 + 1)ab$

$$= 2ab$$

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$$4) 8x - 5y - 3x + 10y$$

$$\text{Ans} \rightarrow \cancel{(8-3)}x \quad 8x - 3x + 10y - 5y$$
$$= (8-3)x + (10-5)y$$

$$= 5x + 5y$$

5) Evaluate:

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

$$\text{Ans} \rightarrow = (-7 + 9 + 2 - 2)x$$

$$= 2x$$

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

$$\text{Ans} \rightarrow = (5 - 2 - 8 + 6)ab$$

$$= ab$$

$$iii) -8a - 3a + 12a + 13a - 6a$$

$$\text{Ans} \rightarrow = (-8 - 3 + 12 + 13 - 6)a$$

$$= 8a$$

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

$$\text{Ans} \rightarrow = (19 - 11 - 12 + 14)abc$$

$$= 10abc$$