



## UNIT 7: Addition and subtraction of like terms (1)

**QUESTION 1** Simplify the following expressions by collecting like terms.

- |                             |                                  |
|-----------------------------|----------------------------------|
| <b>a</b> $2x + 3x =$ _____  | <b>b</b> $5x - 2x =$ _____       |
| <b>c</b> $5a + 4a =$ _____  | <b>d</b> $9y - 6y =$ _____       |
| <b>e</b> $3y + 7y =$ _____  | <b>f</b> $4q - 3q =$ _____       |
| <b>g</b> $8m + 6m =$ _____  | <b>h</b> $9a - a =$ _____        |
| <b>i</b> $2b + 15b =$ _____ | <b>j</b> $8t - 2t =$ _____       |
| <b>k</b> $7n + 5n =$ _____  | <b>l</b> $5mn + 3mn =$ _____     |
| <b>m</b> $8p - 5p =$ _____  | <b>n</b> $8xy + 7xy =$ _____     |
| <b>o</b> $7p - 3p =$ _____  | <b>p</b> $18x^2 - 12x^2 =$ _____ |

**QUESTION 2** Simplify the following.

- |  |   |
|--|---|
| <b>a</b> $5p + 6p - 3p =$ _____              | <b>b</b> $8m - 3m - 2m + 7m =$ _____          |
| <b>c</b> $8x - 5x + 7x =$ _____              | <b>d</b> $4xy + 6xy - 3xy - 2xy =$ _____      |
| <b>e</b> $12y - 4y + 5y =$ _____             | <b>f</b> $8k + 4k + 2k - 5k =$ _____          |
| <b>g</b> $8xy + 2xy + 5xy =$ _____           | <b>h</b> $9a + 2a + 3a - 7a =$ _____          |
| <b>i</b> $6m - 3m + 10m =$ _____             | <b>j</b> $11p + 5p - 7p =$ _____              |
| <b>k</b> $5a + 7a + 3a + 6a =$ _____         | <b>l</b> $6ab - 3ab - ab + 2ab =$ _____       |
| <b>m</b> $8x^2 + 7x^2 - 6x^2 - 3x^2 =$ _____ | <b>n</b> $6a^2 + 7a^2 + 8a^2 - 10a^2 =$ _____ |
| <b>o</b> $4x - 2x + 9x - 6x =$ _____         | <b>p</b> $11y - 6y - 3y - y =$ _____          |

**QUESTION 3** Simplify by collecting like terms.

- |                                       |  |
|---------------------------------------|--|
| <b>a</b> $4x + 3x + 2y + 7y =$ _____  | <b>b</b> $11a + 7b - 3a =$ _____       |
| <b>c</b> $3m + 7m + 8n + 9m =$ _____  | <b>d</b> $9c - 6c - 2c + 3d =$ _____   |
| <b>e</b> $8a + 7a - 2m - 3m =$ _____  | <b>f</b> $9x^2 - x^2 - 3x^2 =$ _____   |
| <b>g</b> $3x + 2y + 5x =$ _____       | <b>h</b> $12mn - 6mn + 3mn =$ _____    |
| <b>i</b> $8y + 7x - 3x - 2x =$ _____  | <b>j</b> $5x + 7y - 4y - 2x =$ _____   |
| <b>k</b> $8m + 2n + 9n + 2n =$ _____  | <b>l</b> $5t + 17 - 2t - 8 =$ _____    |
| <b>m</b> $7y + 6y - 3x + 7x =$ _____  | <b>n</b> $6a + 9 - 3a =$ _____         |
| <b>o</b> $12 - 3x - 2x =$ _____       | <b>p</b> $9m + 7mn - 6m - 2mn =$ _____ |
| <b>q</b> $10m + 5n + 3n + 4m =$ _____ | <b>r</b> $5x + 3y - 2x - 2y =$ _____   |



## UNIT 8: Addition and subtraction of like terms (2)

**QUESTION 1** Simplify the following expressions by collecting like terms.

- |                                 |                              |
|---------------------------------|------------------------------|
| <b>a</b> $3a - 7a =$ _____      | <b>b</b> $-2x + 3x =$ _____  |
| <b>c</b> $6y - 9y =$ _____      | <b>d</b> $-2p - 3p =$ _____  |
| <b>e</b> $8a + -3a =$ _____     | <b>f</b> $9x - -2x =$ _____  |
| <b>g</b> $-2m^2 + 5m^2 =$ _____ | <b>h</b> $-8n - n =$ _____   |
| <b>i</b> $3x - 11x =$ _____     | <b>j</b> $-6p - 2p =$ _____  |
| <b>k</b> $-y + y =$ _____       | <b>l</b> $-10x + 4x =$ _____ |
| <b>m</b> $6a - 8a =$ _____      | <b>n</b> $-5t - t =$ _____   |
| <b>o</b> $x - 5x =$ _____       | <b>p</b> $2k - 14k =$ _____  |

**QUESTION 2** Simplify the following by collecting like terms.

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| <b>a</b> $5n + -2n =$ _____     | <b>b</b> $-y - y - y =$ _____        |
| <b>c</b> $-4a - -6a =$ _____    | <b>d</b> $-k + 2k - 3k =$ _____      |
| <b>e</b> $8y - -3y =$ _____     | <b>f</b> $-3p + 6p + 3p =$ _____     |
| <b>g</b> $5x - 7x =$ _____      | <b>h</b> $-8n + 15 - 2n =$ _____     |
| <b>i</b> $-6m - -10m =$ _____   | <b>j</b> $3a - 2a^2 + 7a^2 =$ _____  |
| <b>k</b> $-x - 2x - 3x =$ _____ | <b>l</b> $-3y + 4x - 7y =$ _____     |
| <b>m</b> $9 - 7t + 12 =$ _____  | <b>n</b> $-3k^2 - 2k^2 + 9k =$ _____ |
| <b>o</b> $x - 5x + 3y =$ _____  | <b>p</b> $8xy - 25 - 10xy =$ _____   |

**QUESTION 3** Simplify by collecting like terms.

- |                                      |  |
|--------------------------------------|--|
| <b>a</b> $2x + 3x - y - 5y =$ _____  | <b>b</b> $3n + 2p - 7n =$ _____          |
| <b>c</b> $8a + 9b - 3a + 2b =$ _____ | <b>d</b> $6n - 3p - 10n + p =$ _____     |
| <b>e</b> $2a - 3b - 2a - 3b =$ _____ | <b>f</b> $a - b - a + a =$ _____         |
| <b>g</b> $-7x + 15 + 7x =$ _____     | <b>h</b> $8m^2 - 7m + 3a^2 + m =$ _____  |
| <b>i</b> $9y - 3 - 2y - 2 =$ _____   | <b>j</b> $6a - 3b - 9a - b =$ _____      |
| <b>k</b> $7k + 5 - 4k + 12 =$ _____  | <b>l</b> $7xy + 9x - 2x + xy =$ _____    |
| <b>m</b> $4m - 7 + 6m - 8 =$ _____   | <b>n</b> $4a - 5b - 3a =$ _____          |
| <b>o</b> $a - 8t + 2a - t =$ _____   | <b>p</b> $6ab - 3b + ab - 9ab =$ _____   |
| <b>q</b> $y - 5y + 7 - 18 =$ _____   | <b>r</b> $-6y^2 - 3y - y + 2y^2 =$ _____ |



## UNIT 9: Multiplication of pronumerals

**QUESTION 1** Find the products of the following.

- |  |  |
|--|--|
| <b>a</b> $7 \times 3a =$ _____             | <b>b</b> $4a \times 9b =$ _____            |
| <b>c</b> $4m \times 5n =$ _____            | <b>d</b> $ab \times a =$ _____             |
| <b>e</b> $-2x \times 5 =$ _____            | <b>f</b> $-8m \times -2m =$ _____          |
| <b>g</b> $4a \times -3a =$ _____           | <b>h</b> $-9m \times -3 =$ _____           |
| <b>i</b> $8 \times 3b \times b =$ _____    | <b>j</b> $-5x \times -x =$ _____           |
| <b>k</b> $-2a \times -3b =$ _____          | <b>l</b> $3a \times 4am =$ _____           |
| <b>m</b> $4mn \times 3m \times 2n =$ _____ | <b>n</b> $-2p \times 5 \times -5p =$ _____ |
| <b>o</b> $6ab \times 5 =$ _____            | <b>p</b> $-6m \times -5mn =$ _____         |

**QUESTION 2** Work out the following products.

- |  |                                   |
|--|-----------------------------------|
| <b>a</b> $3 \times 2 \times 5a \times b =$ _____ | <b>b</b> $7a \times 2a =$ _____   |
| <b>c</b> $8b \times -3b =$ _____                 | <b>d</b> $-6a \times 3 =$ _____   |
| <b>e</b> $2m \times 3mn =$ _____                 | <b>f</b> $8x \times -5 =$ _____   |
| <b>g</b> $ab \times bc =$ _____                  | <b>h</b> $-9t \times 5t =$ _____  |
| <b>i</b> $7mn \times 8np =$ _____                | <b>j</b> $-3k \times -2k =$ _____ |
| <b>k</b> $xy \times yz =$ _____                  | <b>l</b> $-6 \times -5x =$ _____  |
| <b>m</b> $2mn \times np \times 3n =$ _____       | <b>n</b> $-a \times 5b =$ _____   |
| <b>o</b> $4ab \times -3bc =$ _____               | <b>p</b> $-2a \times -2b =$ _____ |
| <b>q</b> $-7a \times 2ab \times c =$ _____       | <b>r</b> $-6y \times -7y =$ _____ |

**QUESTION 3** Simplify the following.

- |   |   |
|---|---|
| <b>a</b> $-2x \times 4 \times -5x =$ _____  | <b>b</b> $-2x \times -5 \times -8y =$ _____     |
| <b>c</b> $3a \times 5 \times -4y =$ _____   | <b>d</b> $6m \times -5m =$ _____                |
| <b>e</b> $-6 \times -4a =$ _____            | <b>f</b> $4n \times -15m =$ _____               |
| <b>g</b> $-9x \times -2y =$ _____           | <b>h</b> $-3n \times -2n \times -5n =$ _____    |
| <b>i</b> $-8p \times 5p =$ _____            | <b>j</b> $xy \times 3xy \times -5xy =$ _____    |
| <b>k</b> $5 \times -2x \times 3y =$ _____   | <b>l</b> $-x \times -y \times -z =$ _____       |
| <b>m</b> $-a \times 7ab =$ _____            | <b>n</b> $-4a \times -5b =$ _____               |
| <b>o</b> $-m \times -2m \times -3n =$ _____ | <b>p</b> $-2m \times 10 \times -5m =$ _____     |
| <b>q</b> $-5a \times -a =$ _____            | <b>r</b> $-2ab \times -5bc \times -3cd =$ _____ |



## UNIT 10: Division of pronumerals

**QUESTION 1** Simplify the following.

- |                                    |                                    |
|------------------------------------|------------------------------------|
| <b>a</b> $\frac{10x}{2x} =$ _____  | <b>b</b> $\frac{30ab}{5a} =$ _____ |
| <b>c</b> $\frac{27mn}{9m} =$ _____ | <b>d</b> $36xy \div 9xy =$ _____   |
| <b>e</b> $15abc \div 5ab =$ _____  | <b>f</b> $12m^2 \div 4m =$ _____   |
| <b>g</b> $9y \div y =$ _____       | <b>h</b> $abc \div ac =$ _____     |
| <b>i</b> $28a \div 7a =$ _____     | <b>j</b> $mk \div k =$ _____       |
| <b>k</b> $32xy \div 8y =$ _____    | <b>l</b> $8n^2 \div 4n =$ _____    |
| <b>m</b> $9y^2 \div 9y =$ _____    | <b>n</b> $60abc \div 10ac =$ _____ |
| <b>o</b> $25m^2 \div 5m =$ _____   | <b>p</b> $72x^2 \div 12x =$ _____  |

**QUESTION 2** Work out the following divisions.

- |  |                                    |
|--|------------------------------------|
| <b>a</b> $\frac{12a}{4} =$ _____       | <b>b</b> $\frac{16m}{2m} =$ _____  |
| <b>c</b> $\frac{10a^2b}{5a^2} =$ _____ | <b>d</b> $25m \div 5m =$ _____     |
| <b>e</b> $12a \div -6 =$ _____         | <b>f</b> $-10pq \div 5p =$ _____   |
| <b>g</b> $-32a \div -8a =$ _____       | <b>h</b> $-48xy \div -16x =$ _____ |
| <b>i</b> $50ab \div 25ab =$ _____      | <b>j</b> $-9xy \div xy =$ _____    |
| <b>k</b> $5x \div -5 =$ _____          | <b>l</b> $60m \div -10m =$ _____   |
| <b>m</b> $18xy \div xy =$ _____        | <b>n</b> $-18a \div 6a =$ _____    |
| <b>o</b> $abc \div ab =$ _____         | <b>p</b> $9ab \div 3a =$ _____     |
| <b>q</b> $5m \div 4m =$ _____          | <b>r</b> $-36mn \div -9m =$ _____  |

**QUESTION 3** Simplify the following.

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>a</b> $\frac{-18a}{6} =$ _____    | <b>b</b> $\frac{90abc}{-10a} =$ _____ |
| <b>c</b> $\frac{-xyz}{-xy} =$ _____  | <b>d</b> $\frac{-33y}{-11y} =$ _____  |
| <b>e</b> $-20t \div -t =$ _____      | <b>f</b> $-30ab \div -10a =$ _____    |
| <b>g</b> $-50ab \div -5b =$ _____    | <b>h</b> $a^2bc \div abc =$ _____     |
| <b>i</b> $x^2y \div xy =$ _____      | <b>j</b> $m^2n \div mn^2 =$ _____     |
| <b>k</b> $27ab^2 \div 9a^2b =$ _____ | <b>l</b> $-24a^2 \div 8a =$ _____     |
| <b>m</b> $48x^2 \div -8x =$ _____    | <b>n</b> $49ab \div -7a =$ _____      |
| <b>o</b> $-16pqr \div 8pr =$ _____   | <b>p</b> $-42a^2 \div 6a =$ _____     |
| <b>q</b> $-9y^2 \div -9y =$ _____    | <b>r</b> $-27mn \div -9m =$ _____     |