

Worksheet

- State whether true or false.
 - $3xy^3 + xy^3 + (-2xy^3) = 2xy^3$
 - $3a^3b^2$ and $4b^2a^3$ are like terms.
 - $a + 4b - 2a - 5b = a - b$
- Choose the correct answer.
 - If we subtract $-12m$ from $12m$, we get
 - 0
 - $24m$
 - $-24m$
 - $6m$
 - If $A = xy^2 + 3xy + y$ and $B = -4xy^2 - 5xy - y$, then $A + B =$
 - $5xy^2 + 2xy + 2y$
 - $-3xy^2 - 2xy$
 - $3xy^2 + 2xy + 2y$
 - $3xy^2 - 2xy$
 - What should be added to $3a + 2b - 7$ to get $-a + b + 1$?
 - $-2a - b + 6$
 - $4a + b + 8$
 - $-4a - b + 8$
 - $2a - b - 6$
- What is the product of:
 - $4xy^2$, x^2y and $3xy$
 - $-3ab^3$, a^2b and $-ab$?
- Multiply:
 - $3x + 5y$ and $3x - 5y$
 - $5a^2 - 3ab$ and $4a - b$
- Divide:
 - $45x^4yz$ by $3x^3z$
 - $4a^4 + a^3 - 2a^2$ by a^2
- If $x = 1$, $y = -1$ and $z = 2$, find the value of:
 - $3xy^2 + 2xy - z$
 - $4x^2y^2 - 5xy + z^2$
- Evaluate:
 - $2x^2 - 3y$, when $x = \frac{1}{3}$, $y = \frac{1}{2}$
 - $x^3 + y^3 + z^3 - 3xyz$, when $x = \frac{1}{2}$, $y = \frac{1}{3}$, $z = -\frac{5}{6}$
- Simplify:
 - $5x + 3y - \{5y - (2x - y)\}$
 - $3\frac{a}{2} + 5\frac{b}{2} - \{\frac{a}{2} - (\frac{b}{4} + a)\}$
- Find the perimeter and area of a rectangle whose length and breadth are $2x^2 + 3y^2$ and $3x^2 - 5y^2$, respectively.
- There is a rectangular path around a rectangular park for walking. If the area of the outer rectangle is $4a^2 + 3b^2 + 5ab$ and the area of the inner rectangle is $2a^2 - b^2 + 3ab$, find the area of the walking path.
- Simplify: $5m + 6n - [2m + 9n - \{11m - 2n - (m + n)\}]$
- Substitute the values $x = 2$ and $y = 3$ and evaluate $2x + 5y - \{3x + 5y - (10y - 3x + 3xy)\}$.
- Evaluate the following expression:
 - $3x^3 + 4x^2 - 2x + x^4$, when $x = -1$
 - $5a^3 - 2a^4 + a^2 - a + 1$, when $a = 2$

14. Divide:

a. $\frac{45x^2y^2}{15x^2xy^2}$ by $\frac{3xy}{6x^4y^{10}}$

b. $\frac{m^2n^3}{m^2n^{12}}$ by $\frac{7m^2n^2}{3m^5n}$

15. Add the following vertically.

a. $2x^2 + 3y^2 - 3xy + 5$, $-2x^2 + xy - 1$ and $3y^2 - 6xy$

b. $2m^3 - 2n^2 + m^2$, $3m^3 - 3m^2$ and 15

Answers to Worksheet

1. a. True b. True c. False
2. a. ii b. ii c. iii
3. a. $12x^4y^4$ b. $3a^4b^5$ 4. a. $9x^2 - 25y^2$ b. $20a^3 - 17a^2b + 3ab^2$
5. a. $15xy$ b. $4a^2 + a - 2$ 6. a. -1 b. 13
7. a. $\frac{-23}{18}$ b. 0 8. a. $7x - 3y$ b. $2a + \frac{11b}{4}$
9. Perimeter: $10x^2 - 4y^2$; Area = $6x^2 - x^2y^2 - 15y^4$ 10. $2a^2 + 4b^2 + 2ab$
11. $13m - 6n$ 12. -2 13. a. 4 b. 11
14. a. $6x^2y^9$ b. $\frac{3m^3}{7n^{10}}$ 15. a. $6y^2 - 8xy + 4$ b. $5m^3 - 2n^2 - 2m^2 + 15$