OPERATIONS ON ALGEBRAIC EXPRESSIONS

10

Q1. **Add $2x^2y^3$ to the sum of $9x^2y^3 - 5xy$ and $3x^2y^3 + 3xy$.**

Q2. **If $P = 7a^2b^2 - 3ab$, $Q = 7a^2b^3 - 3a^2b^2$, $R = -4ab + 7a^2b^3$ solve the following:**

a. $P - Q + R$ = _____

b. $P + Q + R$ = _____

Q3. **Subtract $2x^3 + 5y^2 - 10z$ from $3x^3 + 7y^2 - 5z$.**

Answer: _____

Q4. **The length of each side of a square is $2x - 5y$. Find the area of the square. (Hint: Area of a square=side× side)**

Answer: _____

Q5. **From the sum of a^3+a^2+1 and $a^3 - a^2 + 1$ and subtract $-a^3 - a^2 + 1$ from the sum.**

Answer: _____

Q6. **What should be added to $3x - 2y + 4$ to obtain $4x - 5$?**

Answer: _____

Q7. **If $x = -1$, $y = 1$, $z = -1$, find the value of $3xy \times(-\frac{4}{3} y^2 z^3)\times(\frac{5}{2} x^3 z)$**

Answer: _____

Q8. **Fill in the blanks:**

a. $x^2y^3z^3 \times xyz^4$ = _____

b. $x^5 y^3 \div x^2 y^2$ = _____

c. $-3x^4y^5 \times 1$ = _____

d. $(5x^2 y^2) \div$ _____ $= -5x^2 y^2$

Q9. **Simplify:**

$$5x-\left[4y-\left\{7x-(3z-y)+4z-2\left(x-2y-z\right)\right\}\right]$$

Q10. Find whether the following expressions are correct or not. Tick if correct and cross if wrong. In case of error write the correct expression in the blank given alongside:

Expression	Correct/Incorrect? (✓ / ✗)	Correct Expression
a. $8(x^2 - y^2) = 8x^2 - y^2$	_____	_____
b. $7xy - (3x + 4y) = 7xy - 3x - 4y$	_____	_____
c. $x^3 \times x^3 = x^9$	_____	_____
d. $x^6 \div x^2 = x^3$	_____	_____

ANSWERS

1. $14x^2y^3 - 2xy$
2. a. $10a^2b^2 - 7ab$

   b. $14a^2b^3 + 4a^2b^2 - 7ab$
3. $x^3 + 2y^2 + 5z$
4. $4x^2 - 20xy + 25y^2$
5. $3a^3 + a^2 + 1$
6. $x + 2y - 9$
7. -10
8. a. $x^3y^4z^7$, b. x^3y, c. $-3x^4y^5$ d. -1
9. $10x + y - 32$
10. a. ✗, $8(x^2 - y^2) = 8x^2 - 8y^2$

    b. ✓

    c. ✗, $x^3 \times x^3 = x^6$

    d. ✗, $x^6 \div x^2 = x^4$