OPERATIONS ON ALGEBRAIC EXPRESSIONS

10

Q1. Add the following:

    a. $2x^2y$, $-7x^2y$, $7x^3$, $8y^3$, $3x^3$, $-9y^3$

    b. $5a^3b^3c^3$, $7a^2b$, $-3a^2b$, $-4a^3b^3c^3$

Q2. If $A = 2x^2y - 3xy^2$, $B = 4x^2y^3 + 3xy^2$, $C = -x^2y + 5x^2y^3$ solve the following:

    a. $A + B - C =$ _____

    b. $A + B + C =$ _____

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

    Answer: _____

Q4. The length and breadth of a rectangle are (2x+3y) and (5x-2y) respectively. Find the area of the rectangle. (Hint: Area of a rectangle= length × breadth)

    Answer: _____

Q5. Find the speed of a truck that covers $6xy^4 + 5x^2y^2 - 7x^2y$ km in xy hours.

    Answer: _____

Q6. What should be subtracted from $3x^2y^2 - 4x^3y^2 + 7x^2y^3$ to get $2x^2y^2 + 3x^2y^3$?

    Answer: _____

Q7. If $m = 1$, $n = -1$, $p = -2$, find the value of $3m^4n^3 + 7m^3n + 3p^4n^4$.

    Answer: _____

Q8. Fill in the correct answers in the boxes:

    a. $(2x^2y + 3xy^2) \times 9x^2y \times 0 =$ _____
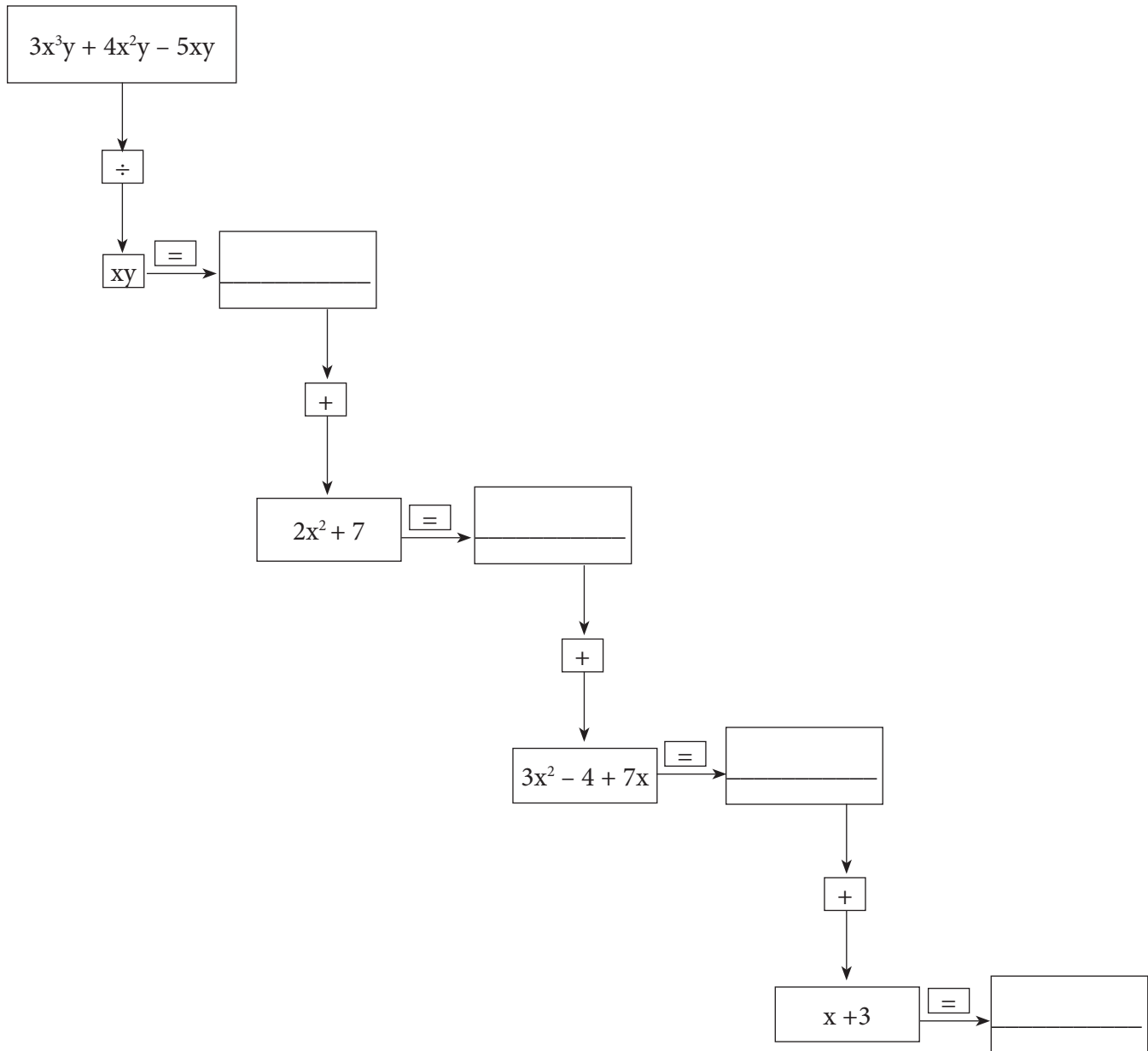
    b. $(7x+3y) \times$ ___ $= 7x + 3y$

    c. $9x^2y^2 \times$ ___ $= 9x^2y^2$

    d. $(3x^2 + y^2) \div$ _____ $= 3x^2 + y^2$

Q9. Simplify:

    $2p - 2q - [(p - q) + \{3p - 4q - (8p - 6p - 7q)\}]$

1

Q10. Simplify and fill in the boxes with the correct answer:

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

$\div$

xy $=$ [ ]

$+$

$2x^2 + 7$ $=$ [ ]

$+$

$3x^2 - 4 + 7x$ $=$ [ ]

$+$

$x + 3$ $=$ [ ]

ANSWERS

1. a. $-5x^2y + 10x^3 - y^3$

    b. $a^3b^3c^3 + 4a^2b$

2. a. $3x^2y - x^2y^3$

    b. $x^2y + 9x^2y^3$

3. $7x^2 + 4y^2 + 7z^3$

4. $10x^2 + 11xy - 6y^2$

5. $(6y^3 + 5xy - 7x)$ km / hour

6. $x^2y^2 - 4x^3y^2 + 4x^2y^3$

7. 38

8. a. 0, b. 1, c. 1, d. 1

9. 0

10. $3x^2 + 4x - 5$

    $5x^2 + 4x + 2$

    $8x^2 + 11x - 2$

    $8x^2 + 12x + 1$