EXERCISE 19 (C)

2. Fill in the blanks:

i) $4x \times 6x \times 2$

$= 48x^2$

ii) $3ab \times 6ax$

$= 18a^2bx$

iii) $x \times 2x^2 \times 3x^3$

$= 6x^6$

iv) $5 \times 5a^3$
$= 25a^3$

v) $6 \times 6x^2 \times 6x^2y^2$
$= 216x^4y^2$

vi) $-8x \times -3x$
$= 24x^2$

vii) $-5 \times -3x \times 5x^2$
$= 75x^3$

ix) $-4x \times 5xy \times 3z$
$= -60x^2yz$

x) $5x \times 2x^2y \times -7y^3 \times 2x^3y^2$
$= -140x^6y^6$

3. Find the value of:

i) $3x^3 \times 5x^4$
$= 15x^7$

ii) $5a^2 \times 7a^7$
$= 35a^9$

iii) $3abc \times 6abc^3$
$= 18abc^4$

iv) $a^2b^2 \times 5a^3b^4$
$= 5a^5b^6$

v) $2x^2y^3 \times 5x^3y^4$
$= 10x^5y^7$

vi) $abc \times bcd$
$= ab^2c^2d$

7. Multiply:

i) $x+2$ and $x+10$
$= x(x+10) + 2(x+10)$
$= x^2 + 10x + 2x + 20$
$= x^2 + 12x + 20$

ii) $x+5$ and $x-3$
$= x(x-3) + 5(x-3)$
$= x^2 - 3x + 5x - 15$
$= x^2 - 8x - 15$

iii) $x-5$ and $x+3$
$= x(x+3) - 5(x+3)$
$= x^2 + 3x - 5x + 15$
$= x^2 - 2x + 15$

iv) $x-5$ and $x-3$
$= x(x-3) - 5(x-3)$
$= x^2 - 3x - 5x - 15$
$= x^2 - 8x - 15$

v) $2x+y$ and $x+3y$
$= 2x(x+3y) + y(x+3y)$
$= 2x^2 + 6xy + yx + 3y^2$
$= 2x^2 + 7xy + 3y^2$

vi) $3x-5y$ and $x+6y$

$= 3x(x+6y) - 5y(x+6y)$

$= 3x^2 + 18xy - 5yx + 30y^2$

vii) $x+9y$ and $x-5y$

$= x(x-5y) + 9y(x-5y)$

$= x^2 - 5yx + 9yx - 45y^2$

$= x^2 + 4yx - 45y^2$

viii) $2x+5y$ and $2x+5y$

$= 2x(2x+5y) + 5y(2x+5y)$

$= 4x^2 + 10xy + 10yx + 25y^2$

$= 4x^2 + 20xy + 25y^2$

EXERCISE 19 (D)

2. Simplify:

i) $2x^5 \div x^2$

$= \frac{2x^5}{x^2} = 2x^{5-2} = 2x^3$

ii) $6a^8 \div 3a^3$

$= \frac{6a^8}{3a^3} = 2a^{8-3} = 2a^5$

iii) $20xy \div -5xy$

$= \frac{20xy}{-5xy} = -4xy$

iv) $-24a^2b^2c^2 \div 6ab$

$= \frac{24a^2b^2c^2}{6ab} = 4a^{2-1}b^{2-1}c^2 = 4abc$

v) $-5x^2y \div xy^2$

$= \frac{-5x^2y}{xy^2} = \frac{-5x^{2-1}}{y^{2-1}} = \frac{-5x}{y}$

vi) $40p^3q^4r^5 \div 10p^3q$

$= \frac{40p^3q^4r^5}{10p^3q} = 4p^{3-3}q^{4-1}r^5 = 4q^3r^5$

vii) $-64x^4y^3z \div 4x^3y^2z$

$= \frac{64x^4y^3z}{4x^3y^2z} = -16x^{4-3}y^{3-2}z = -16xyz$

viii) $35xy^5 \div 7x^2y^4$

$= \frac{35xy^5}{7x^2y^4} = 5x^{2-1}y^{5-4} = 5xy$

3. Divide:

i) $\frac{\frac{-3m}{4}}{2m} = \frac{-3m}{4} \times \frac{1}{2m} = \frac{-3m}{8m} = \frac{-3}{8}$

ii) $\frac{-15p^6q^8}{-5p^6q^7} = 3p^{6-6}q^{8-7} = 3q$

iii) $\frac{-21m^5n^7}{14m^2n^2} = \frac{-3}{2}m^{5-2}n^{7-2} = \frac{-3}{2}m^3n^5$

iv) $\frac{36a^4x^5y^6}{4x^2a^3y^2} = 9a^{4-3}x^{5-2}y^{6-2} = 9ax^3y^4$

v) $\frac{20x^3a^6}{5xy} = 4x^{3-1}a^6y = \frac{4x^2a^6}{y}$

vi) $\frac{\frac{28a^2b^3}{c^2}}{4abc} = \frac{28a^2b^3}{c^2} \times \frac{1}{4abc} = \frac{28a^2b^3}{4abc^2} = \frac{7ab^2}{c^2}$

vii) $\frac{\frac{2a^2}{9b^2}}{\frac{3b}{2a}} = \frac{2a^2}{9b^2} \div \frac{3b}{2a}$

$= \frac{2a^2}{9b^2} \times \frac{2a}{3b}$

$= \frac{4a^3}{27b^3}$

viii) $\frac{-5.5x^2}{y} \div \frac{11x}{y} = \frac{-5.5x^2}{y} \times \frac{y}{11x} = \frac{-5.5x^2y}{11xy} = -0.5x$

ix) $\frac{64x^2y^2}{z^2} \div \frac{8xy}{z} = \frac{64x^2y^2}{z^2} \times \frac{z}{8xy} = \frac{64x^2y^2z}{8xyz^2} = \frac{8xy}{z}$