

## Monomios

### 1. Sumar monomios semejantes:

a)  $3x^2 + 4x^2 - 5x^2 =$

b)  $6x^3 - 2x^3 + 3x^3 =$

c)  $x^5 + 4x^5 - 7x^5 =$

d)  $-2x^4 + 6x^4 + 3x^4 - 5x^4 =$

e)  $7x + 9x - 8x + x =$

f)  $2y^2 + 5y^2 - 3y^2 =$

g)  $3x^2y - 6x^2y + 5x^2y =$

h)  $4xy^2 - xy^2 - 7xy^2 =$

i)  $2a^6 - 3a^6 - 2a^6 + a^6 =$

j)  $ab^3 + 3ab^3 - 5ab^3 + 6ab^3 - 4ab^3 =$

k)  $7xy^2z - 2xy^2z + xy^2z - 6xy^2z =$

l)  $-x^3 + 5x - 2x + 3x^3 + x + 2x^3 =$

m)  $x^4 + x^2 - 3x^2 + 2x^4 - 5x^4 + 8x^2 =$

n)  $3a^2b - 5ab^2 + a^2b + ab^2 =$

o)  $\frac{7}{3}x^2 + \frac{4}{3}x^2 =$

p)  $12x^5 - x^5 - 4x^5 - 2x^5 - 3x^5 =$

q)  $\frac{7}{4}x^5 + \frac{1}{4}x^5 =$

r)  $x^2y^2 - 5x^2y^2 - (3x^2y^2 - 4x^2y^2) - 8x^2y^2 =$

*(Sol:  $-11x^2y^2$ )*

s)  $x^2 + \frac{x^2}{3} =$

t)  $x^2 + x^2 =$

u)  $\frac{1}{2}x^3 - \frac{5}{2}x^3 + \frac{3}{2}x^3 =$

v)  $-(ab^3 + a^3b) - 3a^3b + 5ab^3 - (a^3b - 2ab^3) =$

*(Sol:  $6ab^3 - 5a^3b$ )*

w)  $7x^2 - \frac{1}{2}x^2 - \frac{5}{2}x^2 + 2x^2 + \frac{3}{2}x^2 =$

*(Sol:  $15x^2/2$ )*

x)  $-x + x^2 + x^3 + 3x^2 - 2x^3 + 2x + 3x^3 =$

$$y) 2a^2b + 5a^2b - \frac{2}{3}a^2b - a^2b + \frac{a^2b}{2} = \quad (\text{Sol: } 35a^2b/6)$$

$$z) -x^3 + \frac{5x^3}{4} - \frac{2x^3}{3} + 3x^3 + \frac{x^3}{2} = \quad (\text{Sol: } 37x^3/12)$$

$$\alpha) 7x^3 - \frac{1}{2}x^2 - \frac{5}{2}x^3 + 2x^2 + \frac{3}{2}x^3 = \quad (\text{Sol: } 6x^3 + 3x^2/2)$$

## 2. Efectuar los siguientes productos y cocientes de monomios:

a)  $3x^2 \cdot 4x^3 =$

b)  $2x^3 \cdot 4x^3 \cdot 3x^3 =$

c)  $x^3 \cdot x^3 =$

d)  $-2x^4 \cdot 3x^3 =$

e)  $7x \cdot (-8x^2) =$

f)  $(-3y^2) \cdot (-2y^3) =$

g)  $3x^2y \cdot 6xy^3 =$

h)  $\frac{3}{4}x^2 \cdot \frac{5}{2}x^3 =$

i)  $4a^3b^2 \cdot a^2b \cdot 7ab =$

j)  $-\frac{1}{2}a^3 \cdot \frac{5}{3}a^4 =$

k)  $2a^6 \cdot 3a^6 \cdot 2a^6 =$

l)  $\frac{2}{5}x^3 \cdot \left(-\frac{3}{2}x\right) =$

m)  $ab^3 \cdot (-3a^2b) \cdot 5a^3b =$

n)  $x^2 \cdot \frac{1}{3}x^5 =$

o)  $-ab^2c^3 \cdot (-3a^2bc) \cdot 3abc =$

p)  $(6x^4) : (2x^2) =$

q)  $\frac{12a^6}{3a^3} =$

r)  $15x^4 : (-3x) =$

$$\text{s)} \frac{-14x^7}{7x^2} =$$

$$\text{t)} -8x^4 : (-4x^3) =$$

$$\text{u)} \frac{5x^7y^3}{x^2y} =$$

$$\text{v)} (-18x^4) : (6x^3) =$$

$$\text{w)} \frac{-12a^5b^4c^6}{2a^3b^2c} =$$

$$\text{x)} 2x^4 \cdot 6x^3 : (4x^2) = \quad \text{(Sol: } 3x^5\text{)}$$

$$\text{y)} \frac{3a^5b \cdot (-12a^4b^2)}{4a^3b^2} = \quad \text{(Sol: } -9a^6b\text{)}$$

$$\text{z)} 27x^4 : (-9x^3) \cdot (-2x^2) = \quad \text{(Sol: } 6x^3\text{)}$$

$$\alpha) (2x)^2 =$$

### 3. Efectuar las siguientes operaciones combinadas con monomios:

$$\text{a)} 15x^5 - 3x^3 \cdot 4x^2 = \quad \text{(Sol: } 3x^5\text{)}$$

$$\text{b)} 2x^3 + 4x^3 \cdot 5x - 2x \cdot (-x^2) = \quad \text{(Sol: } 20x^4 + 4x^3\text{)}$$

$$\text{c)} 3a \cdot ab - 2a^2 \cdot (-4b) - 8 \cdot (2a^2b) = \quad \text{(Sol: } -5a^2b\text{)}$$

$$\text{d)} 3x^2 + 4x^2 - 2x^2 \cdot (-3x) - [(4x^3 + x^2 - 2x \cdot (x^2))] = \quad \text{(Sol: } 4x^3 + 6x^2\text{)}$$

$$\text{e)} -3xy^2 - (-4x \cdot 7y^2) + [8x^2y^3 : (2xy)] = \quad \text{(Sol: } 29xy^2\text{)}$$

$$\text{f)} (-y^2) \cdot (-2y^2) - 5y \cdot (-2y^3) + 3y^3 \cdot (-4y) = \quad \text{(Sol: } 0\text{)}$$

$$\text{g)} (3x^3 \cdot 6x - 2x^2 \cdot x^2) : (4x^2 \cdot 3x^2 - 8x \cdot x^3) = \quad \text{(Sol: } 4\text{)}$$

**h)**  $3x^5 - \frac{4}{3}x^2 \cdot \frac{3}{2}x^3 =$  (Sol:  $x^5$ )

**i)**  $4a^2b \cdot (-ab^2) \cdot 5ab - 8a^4b^4 =$  (Sol:  $-28a^4b^4$ )

**j)**  $a^5 + \frac{5}{6}a^3 \cdot \frac{3}{5}a^2 =$  (Sol:  $3a^5/2$ )

**k)**  $5x^6 - 2x^6 \cdot 3x^6 : (-2x^6) =$  (Sol:  $8x^6$ )

**l)**  $\left(-\frac{7}{3}x^3\right) \cdot \left(-\frac{4}{7}x\right) + \frac{2}{3}x^4 =$  (Sol:  $2x^4$ )

**m)**  $2ab \cdot (-a^3b) + [ab^2 \cdot (-3a^2b)] - 5a^3b \cdot ab + ab \cdot a^2b^2 =$  (Sol:  $-7a^4b^2 - 2a^3b^3$ )

**n)**  $2x^2 \cdot \frac{1}{3}x^3 + \frac{21x^7}{3x^2} =$  (Sol:  $23x^5/3$ )