



Aluno (a): _____ n.º: _____

Professor(a): *Marcelo Barbosa Felix* Data: ___/___/___ Turma: _____

1. Calcule as potências:

a) $(-3x)^2 = R: 9x^2$

b) $(-3x^2)^2 = R: 9x^4$

c) $(-3x)^0 = R: 1$

d) $(+6x^2y)^2 = R: 36x^4y^2$

e) $(-2a^3b^2)^3 = R: -8a^9b^6$

f) $(4a^3)^3 = R: 64a^9$

g) $\left(-\frac{2}{5}x\right)^2 = R: \frac{4}{25}x^2$

h) $\left(+\frac{2}{3}xy\right)^3 = R: \frac{8}{27}x^3y^3$

i) $\left(-\frac{1}{2}a\right)^4 = R: \frac{1}{16}a^4$

j) $(-ab^3)^2 = R: a^2b^6$

k) $\left(-\frac{1}{2}a^2\right)^5 = R: -\frac{1}{32}a^{10}$

l) $(0,4a)^3 = R: \frac{64}{1000}a^3$

m) $(-0,01x)^2 = R: \frac{1}{10000}x^2$

n) $(0,222\dots y^3)^2 = R: \frac{4}{81}y^6$

2. Reduza os termos semelhantes:

a) $-12a + 9a + 5a = R: 2a$

b) $15y - 10y - 6y = R: -y$

c) $4a^2 - 10a^2 - 6a^2 - 4a^2 = R: -16a^2$

d) $-\frac{3}{4}ax + \frac{1}{3}ax - \frac{1}{2}ax = R: -\frac{11}{12}ax$

e) $\frac{1}{4}y^2 - \frac{5}{8}y^2 + \frac{1}{2}y^2 = R: \frac{1}{8}y^2$

f) $-\frac{a}{2} - \frac{a}{3} + \frac{a}{5} = R: -\frac{19a}{30}$

3. Calcule os produtos:

a) $(+2x) \cdot (+3x^2) = R: 6x^3$

b) $(-3y) \cdot (+4y^2) = R: -12y^3$

c) $(5a) \cdot (-3b) = R: -15ab$

d) $(-4x^2y) \cdot (-3xy^2) = R: 12x^3y^3$

e) $(-5ab) \cdot (+3a) = R: -15a^2b$

4. Calcule os quocientes, considerando as variáveis do divisor diferentes de zero:

a) $(-12a) : (-3a) = R: 4$

b) $(-20a^5) : (+4a^2) = R: -5a^3$

c) $(+36xy^3) : (+4y) = R: 9xy^2$

d) $(+18xy^3) : (-2x) = R: -9y^2$

e) $(-14xy^3) : (-7xy^2) = R: 2y$

f) $(-24a^3b^2) : (4ab) = R: -6a^2b$

g) $\left(-\frac{2}{5}x^4y^3\right) : (-4x^3y) = R: \frac{1}{10}xy^2$

h) $\left(+\frac{3}{2}a^5b^2\right) : \left(+\frac{4}{3}a^2b\right) = R: \frac{9}{8}a^3b$

i) $(+5a^3) : \left(-\frac{2}{3}a\right) = R: -\frac{15}{2}a^2$

j) $(-2ab) : (+3a) = R: -\frac{2}{3}b$

5. Calcule a raiz quadrada, admitindo que as variáveis não assumem valores negativos.

a) $\sqrt{36x^2} = R: 6x$

b) $\sqrt{100a^2b^4} = R: 10ab^2$

c) $\sqrt{64a^2} = R: 8a$

d) $\sqrt{\frac{25a^2}{49}} = R: \frac{5a}{7}$

e) $\sqrt{\frac{a^4b^2}{9}} = R: \frac{a^2b}{3}$

f) $\sqrt{\frac{x^2}{4}} = R: \frac{x}{2}$