LEZIONE 10
Espressioni contenenti monomi

$$\left[\left(-\frac{5}{3}a^4b x^2\right):\left(-\frac{10}{3}a^4x^2\right)-\frac{1}{16}b^6:\left(-\frac{1}{32}b^5\right)\right]:\left[-\frac{1}{8}a^{12}b^6x^3:\left(\frac{3}{4}a^{12}b^5x^3\right)\right]=$$

$$=\left[\frac{5}{3}\cdot\frac{3}{10}b+\frac{1}{16}\cdot\frac{32}{1}b\right]:\left[\frac{1}{8}\cdot\frac{4}{3}b\right]=$$

$$=\left[\frac{1}{2}b+\frac{2}{1}b\right]:\left[\frac{1}{6}b\right]=\left[\frac{1+4}{2}b\right]:\left[\frac{1}{6}b\right]=$$

$$=\left[\frac{5}{2}b\right]:\left[\frac{1}{6}b\right]=\frac{5}{1}\cdot\frac{6}{1}=15$$

$$\left[\left(-\frac{13}{2}ab+\frac{5}{1}ab\right)^3\cdot\left(\frac{13}{2}ab-\frac{5}{1}ab\right)^2:\left(-\frac{3}{2}ab\right)^4\right]\cdot\left(-\frac{1}{2}ab\right)-b^2\cdot\left(\frac{9a-1a}{2}\right)^2=$$

$$=\left[\left(\frac{-13ab+10ab}{2}\right)^3\cdot\left(\frac{13ab-10ab}{2}\right)^2:\left(-\frac{3}{2}ab\right)^4\right]\cdot\left(-\frac{1}{2}ab\right)-b^2\cdot\left(\frac{9a-a}{2}\right)^2=$$

$$=\left[\left(-\frac{3}{2}ab\right)^3\cdot\left(\frac{3}{2}ab\right)^2:\left(-\frac{3}{2}ab\right)^4\right]\cdot\left(-\frac{1}{2}ab\right)-b^2\cdot\left(\frac{5}{2}a\right)^2=$$

$$=\left[-\left(\frac{3}{2}ab\right)^3\cdot\left(\frac{3}{2}ab\right)^2:\left(\frac{3}{2}ab\right)^4\right]\cdot\left(-\frac{1}{2}ab\right)-b^2\cdot\frac{25}{4}a^2=$$

$$=\left[-\left(\frac{3}{2}ab\right)^5:\left(\frac{3}{2}ab\right)^4\right]\cdot\left(-\frac{1}{2}ab\right)-\frac{25}{4}a^2b^2=$$

$$=-\left(\frac{3}{2}ab\right)\cdot\left(-\frac{1}{2}ab\right)-\frac{25}{4}a^2b^2=$$

$$=\frac{3}{4}a^2b^2-\frac{25}{4}a^2b^2=\frac{3-25}{4}a^2b^2=-\frac{22}{4_2}a^2b^2$$

$$=\boxed{-\frac{11}{2}a^2b^2}$$

$$\frac{1}{3}b\cdot(a^3b)^2+\left(\frac{3}{5}xy^2\right)^3\cdot(a^2m)^3+\frac{2}{5}a^3\left(\frac{1}{3}ab\right)^3+\frac{1}{3}am^3x^3y(ay)^5=$$

$$=\frac{1}{3}b^1\cdot a^6b^2+\frac{8}{27}x^3y^6\cdot a^6m^3+\frac{2}{5}a^3\left(\frac{1}{27}a^3b^3\right)+\frac{1}{3}am^3x^3y\cdot a^5y^5=$$

$$=\frac{1}{3}a^6b^3+\frac{8}{27}a^6m^3x^3y^6+\frac{2}{135}a^6b^3+\frac{1}{3}a^6m^3x^3y^6=$$

$$=\left(\frac{1}{3}+\frac{2}{135}\right)a^6b^3+\left(\frac{8}{27}+\frac{1}{3}\right)a^6m^3x^3y^6=$$

$$=\left(\frac{45+2}{135}\right)a^6b^3+\left(\frac{8+9}{27}\right)a^6m^3x^3y^6=$$

$$=\boxed{\frac{47}{135}a^6b^3+\frac{17}{27}a^6m^3x^3y^6}$$

$$\boxed{\frac{47a^6b^3+85a^6m^3x^3y^6}{135}}$$

$$-2xy\left(-\frac{1}{3}x^2y\right)^2 : (-6x^3y) - \left\{-\left[-x^2(-y)^2\right]^2\right\}^2 : \left(-\frac{3}{2}x^2y^2\right)^3 - \frac{1}{3}x^2y^2 =$$

$$= -2xy \cdot \left(\frac{1}{9}x^4y^2\right) : (-6x^3y) - \left\{-\left[-x^2y^2\right]^2\right\}^2 : \left(-\frac{27}{8}x^6y^6\right) - \frac{1}{3}x^2y^2 =$$

$$= -\frac{2}{9}x^5y^3 : (-6x^3y) - \left\{-\left[x^4y^4\right]\right\}^2 : \left(-\frac{27}{8}x^6y^6\right) - \frac{1}{3}x^2y^2 =$$

$$= \frac{1}{9} \cdot \frac{1}{3}x^2y^2 - x^8y^8 : \left(-\frac{27}{8}x^6y^6\right) - \frac{1}{3}x^2y^2 =$$

$$= \frac{1}{27}x^2y^2 + 1 : \frac{8}{27}x^2y^2 - \frac{1}{3}x^2y^2 =$$

$$= \frac{1}{27}x^2y^2 + \frac{8}{27}x^2y^2 - \frac{1}{3}x^2y^2 = \frac{1}{3}x^2y^2 - \frac{1}{3}x^2y^2 =$$

$$= \frac{1}{3}x^2y^2 - \frac{1}{3}x^2y^2 = 0$$