# Potenze di frazioni

## Periodo 1 - UdA 5-6

Risolvere le seguenti espressioni

[1] $3^2 \cdot \left(\frac{1}{2}\right)^4 \cdot \left(1+\frac{1}{3}\right)^2$ [2] $\left(\frac{1}{2}\right)^4 + \left(\frac{3}{4}\right)^2 + 3 \cdot \left(\frac{1}{2}\right)^3$ [3] $2^3 \cdot \left(\frac{1}{3}\right)^2 + \left(\frac{1}{2}+\frac{1}{6}\right) \cdot \left(\frac{1}{2}\right)^3 \cdot \frac{4}{3}$

[4] $\left(2-\frac{3}{2}\right)^2 + \left(\frac{3}{2}\right)^2 \cdot \frac{1}{3}$ [5] $\left(\frac{1}{9}+\frac{1}{6}\right) \cdot \left(\frac{3}{5}\right)^2 \cdot \left(1+3^2\right)$ [6] $9 \cdot \left(\frac{1}{2}\right)^4 - \left(\frac{1}{2}\right)^3 + \left(2-\frac{5}{2}\cdot\frac{1}{2}\right)^2$

Risolvere le seguenti espressioni, applicando dove possibile le proprietà delle potenze

7. $\left(1-\frac{1}{2}\right)^3 \cdot \left(3^2-2^3+1\right) + \left(2-\frac{1}{2}\right) \cdot \left(\frac{1}{6}-\frac{1}{9}\right) \cdot (2+1)^2$
8. $1 + \left(1-\frac{1}{2}\right) \cdot \left(\frac{1}{2}\right)^2 \cdot \left(1^3-\frac{1}{3}\right)^3 \cdot \left(2\cdot\frac{3}{5}\right)^3 \cdot \left(\frac{2}{5}\right) \cdot 5^4 - \left(\frac{3}{5}\cdot\frac{5}{2}+\frac{1}{2}\right)^4$
9. $\left(1^3+1^2\right)^3 \cdot \left(1-\frac{15}{14}\cdot\frac{1}{6}\cdot\frac{21}{5}\right)^3 \cdot \left(\frac{1}{3}+5^2\cdot\frac{1}{15}\right)^4 - 1$
10. $\left(\frac{10}{9}\cdot\frac{3}{5}-\frac{1}{6}\right)^4 + \left(2-\frac{5}{2}\cdot\frac{1}{2}\right)^2 + \left(\frac{1}{3}+\frac{10}{3}\cdot\frac{4}{5}\right) \cdot \left(\frac{1}{2}\right)^3$
11. $\left(2-\frac{5}{6}\cdot\frac{3}{2}\right)^2 \cdot \left(\frac{4}{3}\cdot\frac{3}{10}\cdot\frac{5}{2}-\frac{1}{5}\right)^2 - \left(3^2\cdot\frac{1}{9}-\frac{3}{5}\right)\cdot\frac{4}{5} + \left(\frac{2}{5}\right)^2 + 2 - \left(2\cdot\frac{3}{5}\right)$
12. $\left(\frac{1}{15}\cdot\frac{5}{6}\cdot 3^2 + \frac{3}{8}\cdot\frac{4}{15}\right)^2 + \left(2^2\cdot\frac{1}{12}-\frac{1}{4}\cdot\frac{4}{5}\right)^2 \cdot \left(\frac{11}{2}+2\cdot\frac{1}{4}\right)^2$
13. $\left(\frac{1}{4}-\frac{1}{6}\right)^2 \cdot \left(\frac{4}{5}\right)^2 \cdot \left(2^3-2\right)^2 + \left(2-3^2\cdot\frac{1}{5}\right)^2 + \left(\frac{2}{3}\right)^3 \cdot \frac{27}{10}$
14. $\left(\frac{3}{2}\right)^2 \cdot \left(1-2^3\cdot\frac{1}{9}\right) + \left(1-\frac{1}{3}\right) \cdot \left(\frac{1}{6}+\frac{1}{3}\right)^2 + \left(2+\frac{1}{3}\right) \cdot \left(2-\frac{3}{5}\cdot\frac{5}{2}\right)^2$
15. $\left(1-\frac{6}{7}\cdot\frac{7}{15}\right)^3 \cdot \left(\frac{5}{2}\cdot\frac{1}{3}\right)^3 \cdot \left(\frac{1}{4}\cdot\frac{2}{3}+3\cdot\frac{1}{9}\right) + \left(4^2-1\right) \cdot \left(2-\frac{3}{2}\right)^4$

# SOLUZIONI

## Potenze di frazioni  Periodo 1 - UdA 5-6

| | | | | | |
|---|---|---|---|---|---|
| [1] | 1 | [2] | 1 | [3] | 1 |
| [4] | 1 | [5] | 1 | [6] | 1 |
| [7] | 1 | [8] | 1 | [9] | 1 |
| [10] | 1 | [11] | 1 | [12] | 1 |
| [13] | 1 | [14] | 1 | [15] | 1 |