

# ESERCIZI IN PIÙ

## ESERCIZI DI FINE CAPITOLO

Semplifica le seguenti espressioni.

- 1  $\frac{x^2 - 9}{(2x + 1)(x - 3)} \cdot \frac{8x^3 + 1}{-x^2 - 6x - 9} : \frac{8x^3 - 4x^2 + 2x}{x - 3}$   $\left[ \frac{3 - x}{2x(x + 3)} \right]$
- 2  $\frac{10}{x^2 - 2x} + \frac{3x - 1}{2 - x} + 3$   $\left[ -\frac{5}{x} \right]$
- 3  $\left( \frac{4a + 1}{2 - a} + \frac{3}{4a - 8} - 1 \right) : \left( 20 + \frac{33}{a - 2} \right)$   $\left[ -\frac{1}{4} \right]$
- 4  $\frac{x^2 + 2x - 8}{x^2 - 4} : \frac{3x^2 + 48 + 24x}{x^3 + 2x^2} : \frac{x^2 - 2x + 1}{x^3 + 4x^2 - x - 4}$   $\left[ \frac{x^2(x + 1)}{3x - 3} \right]$
- 5  $\frac{3x - 4y}{x^2 - 4xy + 4y^2} - \frac{1}{2y - x} + \frac{6y - 6x}{3x^2 - 12xy + 12y^2}$   $\left[ \frac{2}{x - 2y} \right]$
- 6  $\left( \frac{23x + 2 - 2x^2}{x^2 + x - 6} + \frac{5x - 1}{x + 3} - \frac{2x + 4}{x - 2} \right) : \frac{x^3 + 4x^2 - x - 4}{x^2 - 9}$   $\left[ \frac{x - 3}{x^2 - 1} \right]$
- 7  $\left( \frac{3x - 8}{x^2 - 2x} + \frac{1}{x - 2} - 1 \right)^2 \cdot \frac{x^3 - 5x^2}{x^2 - 25} + \frac{24x - 8}{3x + 15}$   $\left[ \frac{3x^2 + 40}{3x + 15} \right]$
- 8  $\frac{3}{x^3 - 2x^2 + x - 2} + \frac{5}{x^2 + 1} - \frac{2}{x^2 - 4x + 4} - \frac{2x^2 - 17x + 11}{(x^2 + 1)(x - 2)^2}$   $\left[ \frac{1}{(x - 2)^2} \right]$
- 9  $\frac{3a - 2b + 1}{a^2b^2 - b^2} + \frac{b + 1}{ab^2 + b^2} - \frac{3}{ab^2 - b^2}$   $\left[ \frac{(a - 3)(b + 1)}{b^2(a^2 - 1)} \right]$
- 10  $\left( \frac{3x - 2}{25 - x^2} + \frac{4x + 1}{x^2 - 10x + 25} + \frac{4}{x - 5} \right) \cdot \frac{3x^2 - 30x + 75}{105 - 38x - 5x^2}$   $\left[ -\frac{3}{x + 5} \right]$