

Simplifying Expressions 2

Simplify

$$1. \quad 3x(x^2 - 4) - \frac{2x}{3}(3x - 9) - 3x^2 - \left(\frac{3}{2x}\right)^{-3} \quad \frac{73x^3 - 135x^2 - 162x}{27}$$

$$2. \quad \frac{3x^2}{2} - 4x(x - 2) - (3x - 8) + \frac{3}{4}x^2 - \left(\frac{5}{x}\right)^{-1} \quad \frac{-35x^2 + 96x + 160}{20}$$

$$3. \quad \frac{3x^4}{6x} - 4x(x^2 - 1) - 2x(3x - 8) + x^2 - 10\left(\frac{5}{x}\right)^{-2} \quad \frac{-75x^2 - 108x^2 + 400x}{20}$$

$$4. \quad -\left(8x^3\right)^{\frac{4}{3}} - x(x^2 - 1) - 3x(2x^2 - 1) + x^2\left(\frac{2}{x}\right)^{-2} \quad \frac{-63x^4 - 28x^3 + 16x}{4}$$

$$5. \quad 4x^3 - x(x - 1) - 3x(2x^2 - 1) + x\left(\frac{2}{x}\right)^{-3} \quad \frac{x^4 - 16x^3 - 8x^2 + 32x}{8}$$