

## Worked Solutions

Pure Maths, Differential Calculus,

sheet PM-DIFF-DF-01

### The Power Rule (Derivative Formula) Q. 5

differentiate  $y = \frac{2}{3x^2}$

rewrite the equation using exponents:

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

use the power rule for differentiation:

$$\frac{d}{dx} [x^n] = n \cdot x^{n-1}$$

differentiating

$$\frac{dy}{dx} = \frac{2}{3} \cdot (-2)x^{-3}$$

final answer:

$$\frac{dy}{dx} = -\frac{4}{3x^3}$$