Differentiating Harder Expressions

1. Turn roots into powers $y = \sqrt{x}$

2. Split up fractions $y = \frac{x^2+3}{\sqrt{x}}$

3. Expand out brackets $y = x^2(x - 3)$

4. Beware of numbers in denominators $y = \frac{1}{3x}$

Test your understanding

Differentiate the following

1. $y = \frac{1}{\sqrt{x}}$

2. $y = \frac{2+x^3}{x^2}$

3. $y = \frac{1+2x}{3x\sqrt{x}}$

Extension

[MAT 2013 1E]

The expression $\frac{d^2}{dx^2}[(2x-1)^4(1-x)^5] + \frac{d}{dx}[(2x+1)^4(3x^2-2)^2]$

is a polynomial of degree:

A) 9

B) 8

C) 7

D) less than 7

Ex 12E page267