

Notes for Derivative Power rule

Original	Rewrite	Take derivative	Simplify
$f(x) = x^{3/2}$ then $f'(4) =$			
$f(x) = \frac{1}{2\sqrt[3]{x^2}}$, $f'(x) =$			
$v(t) = \frac{-t^4}{2} + 3t^3 - 2t$ $v'(t) =$			
$\frac{d}{dx} \left(\frac{1}{x^3} - \frac{1}{x} + x^2 \right)$ at $x = -1$ is ____			

Homework power rule shortcut: Differentiate the given function. See back page on how to take derivative using calculator to check your answers.

1. $f(x) = x^3 - 4x + 6$

2. $h(x) = (x - 2)(x + 3)$

3. $y = x^{-2/5}$

4. $y = 5\sqrt[4]{x^3} - \frac{3}{2\sqrt[3]{x}}$

5. $R(t) = 5t^{-3/5}$

6. $y = 4\pi^2$

7. $g(u) = \sqrt{2}u + \frac{2}{5}u^{2/3}$

8. $y = \frac{x^2 + 4x + 3}{\sqrt{x}}$

9. $y = \frac{x^2 - 2\sqrt{x}}{x}$

10. $v = t^2 - \frac{1}{\sqrt[4]{t^3}}$