10.1 Antiderivatives

Question: if $y = 3x^4 + 2$ then $y' =$

BUT if $y' = 6x^2$, then $y =$

Antiderivatives –

Commonly Encountered Antiderivatives

Function	Antiderivative
0	
1	
x^n	
$\frac{1}{x}$	
e^{kx}	
$\cos kx$	
$\sin kx$	

Find the antiderivatives:

$f(x) = 4x^3 - 6x^2 + 11$

$f(x) = \cos(\pi x) - \sin x$

$f(x) = -3e^{-x} + 6e^{2x}$

$f(x) = \frac{2}{x^2} - \frac{5}{x} + x$

$g(x) = 2x^4 + \frac{x^3}{3} + \sqrt{x}$

$h(x) = \frac{7x^3+3}{x}$