

Derivatives of Basic Functions Worksheet

1. Find $f'(x)$ for $f(x) = 2x^3 - (-2x) + \pi$.
2. Find $\frac{dg}{dy}$ for $g(y) = 2\sin(y) + \tan(\pi) + 3y^2$.
3. Find $\frac{dw}{dz}$ for $w(z) = \pi^z - z^\pi$.
4. Find $\frac{dh(u)}{du}$ for $h(u) = \ln(u^2)$.
5. Find $\lim_{h \rightarrow 0} \frac{f(a+h)-f(a)}{h}$ for $f(x) = \frac{2}{x^2} - 4x^2$.
6. Find $\frac{d}{dz} (\sin(\pi) \sin(z) + \ln(5y))$.
7. Find $l'(x)$ is $l(x) = \sqrt{x} (x^2 + \frac{1}{x})$.
8. Find $\frac{d}{du} (4x^{100} - 6x^7 + 9x + \ln(2))$.
9. Find $[x^2 + e^x + |x|]'$.
10. Find $u'(x)$ if $u(x) = \frac{x^3 - x \cos(x)}{x}$.

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