

1. Differentiate with respect to x . Answer in simplest form.

a) $y = e^{4x^3}$

b) $y = \frac{e^{2x}}{3x+1}$

c) $y = 7^{2x}$

d) $y = \ln\left(\frac{4}{\sqrt{2x}}\right)$

e) $y = \log(3x^2)$

f) $y = \ln(\cos x)$

2. Differentiate with respect to x . Answer in simplest form.

a) $y = \frac{1}{x\sqrt{6}}$

b) $y = x^{x^4}$