

Change of Base Theorem

$$\log_a x = \frac{\log_{10} x}{\log_{10} a} = \frac{\log x}{\log a} = \frac{\ln x}{\ln a}$$

Ex 8 (a) $\log_5 17 = \frac{\log(17)}{\log 5} = 1.76037$
 $\approx \boxed{1.7604}$

(b) $\log_2(0.1) = \frac{\log(0.1)}{\log 2} = \boxed{-3.3219}$

$= \frac{\ln(0.1)}{\ln 2} = \boxed{-3.3219}$