LOG LAWS:

Logarithms can be manipulated using log laws, as seen below.

- $\log_a xy = \log_a x + \log_a y$
- $\log_a \frac{x}{y} = \log_a x - log_a y$
- $\log_a 1 = 0$
- $\log_a a = 1$
- $\log_a x^p = p \log_a x$
- $\log_a a^x = x$
- $\log_a x = \frac{\log_b x}{\log_b a}$
- $a^{\log_a x} = x$

5.5 WORKED EXAMPLE

If $\log x = 0.5$ and $\log y = 0.2$, evaluate $\log\left(\frac{x^2}{\sqrt{y}}\right)$