

1,2,3

$$a) \log(6) = \log(2 \cdot 3) = \log(2) + \log(3)$$

$$b) \log(16) = \log(2^4) = 4 \cdot \log(2)$$

$$c) \log(\sqrt{2}) = \log(2^{\frac{1}{2}}) = \frac{1}{2} \log(2)$$

$$d) \log(0,5) = \log\left(\frac{1}{2}\right) = \log(2^{-1}) = -\log(2)$$

$$e) \log(36) = \log(6^2) = 2 \cdot \log(6)$$

$$= 2 \log(2) + 2 \log(3)$$

$$f) \log\left(\frac{8}{27}\right) = \log(8) - \log(27)$$

$$= \log(2^3) - \log(3^3)$$

$$= 3 \log(2) - 3 \log(3)$$