

Assessment - 6.1
Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1
 2. ANS: E PTS: 1
 3. ANS: D PTS: 1

SHORT ANSWER

1. ANS:

$$\log \sqrt[7]{10} = \frac{1}{7}$$

$$\log_8 2^5 = \log_8 \left(8^{\frac{1}{3}} \right)^5 = \frac{5}{3}$$

$$\log_{\frac{1}{100}} 1000 = \log_{\frac{1}{100}} 10^3 = \log_{\frac{1}{100}} 100^{\frac{3}{2}} = -\frac{3}{2}$$

$$\log_7 \left(\frac{1}{49} \right) = -2$$

$$\log_3 \left(\frac{81}{\sqrt{27}} \right) = \log_3 \left(\frac{3^4}{3^{\frac{3}{2}}} \right) = \log_3 3^{4 - \frac{3}{2}} = \frac{5}{2}$$

$$\log_9 \sqrt{27} = \log_9 3^{\frac{3}{2}} = \log_9 \left(9^{\frac{1}{2}} \right)^{\frac{3}{2}} = \frac{3}{4}$$

PTS: 6

2. ANS:

$$y = \log_2 x$$

$$y = \log_{\frac{1}{3}} x \text{ or } y = -\log_3 x$$

PTS: 2