Exponents and Logarithms

Answer Key

A) Express each equation in logarithmic form.

1) $5^4 = 625$

$\log_5 625 = 4$

2) $64^{\frac{1}{6}} = 2$

$\log_{64} 2 = \frac{1}{6}$

3) $6^3 = 216$

$\log_6 216 = 3$

4) $3^6 = 729$

$\log_3 729 = 6$

5) $2^6 = 64$

$\log_2 64 = 6$

6) $4^{-2} = \frac{1}{16}$

$\log_4 \left(\frac{1}{16}\right) = -2$

B) Express each equation in exponential form.

1) $\log_3 81 = 4$

$3^4 = 81$

2) $\log_2 128 = 7$

$2^7 = 128$

3) $\log_{81} 9 = \frac{1}{2}$

$81^{\frac{1}{2}} = 9$

4) $\log_7 343 = 3$

$7^3 = 343$

5) $\log_{27} 3 = \frac{1}{3}$

$27^{\frac{1}{3}} = 3$

6) $\log_2 \left(\frac{1}{8}\right) = -3$

$2^{-3} = \frac{1}{8}$