Exponents and Logarithms

Answer Key

A) Express each equation in logarithmic form.

1) $8^2 = 64$

$\log_8 64 = 2$

2) $2^5 = 32$

$\log_2 32 = 5$

3) $3^{-2} = \frac{1}{9}$

$\log_3 \left(\frac{1}{9}\right) = -2$

4) $81^{\frac{1}{4}} = 3$

$\log_{81} 3 = \frac{1}{4}$

5) $7^3 = 343$

$\log_7 343 = 3$

6) $9^2 = 81$

$\log_9 81 = 2$

B) Express each equation in exponential form.

1) $\log_3 \left(\frac{1}{27}\right) = -3$

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

2) $\log_{64} 4 = \frac{1}{3}$

$64^{\frac{1}{3}} = 4$

3) $\log_{32} 2 = \frac{1}{5}$

$32^{\frac{1}{5}} = 2$

4) $\log_2 256 = 8$

$2^8 = 256$

5) $\log_8 512 = 3$

$8^3 = 512$

6) $\log_5 25 = 2$

$5^2 = 25$