

NAME: \_\_\_\_\_

1. Write the equation  $\log_{243} 9 = \frac{2}{5}$  in exponential form.

[A]  $243^{\frac{2}{5}} = 9$       [B]  $9^{\frac{2}{5}} = 243$   
[C]  $\left(\frac{2}{5}\right)^{243} = 9$       [D]  $9^{\frac{5}{2}} = 243$

2. Write the equation  $\log_{243} 81 = \frac{4}{5}$  in exponential form.

[A]  $81^{\frac{5}{4}} = 243$       [B]  $\left(\frac{4}{5}\right)^{243} = 81$   
[C]  $243^{\frac{4}{5}} = 81$       [D]  $81^{\frac{4}{5}} = 243$

3. Write the equation  $\log_{16} 8 = \frac{3}{4}$  in exponential form.

[A]  $16^{\frac{3}{4}} = 8$       [B]  $8^{\frac{4}{3}} = 16$   
[C]  $8^{\frac{3}{4}} = 16$       [D]  $\left(\frac{3}{4}\right)^{16} = 8$

4. Write the equation  $\log_{16} 64 = \frac{3}{2}$  in exponential form.

5. Write the equation  $\log_{1024} 256 = \frac{4}{5}$  in exponential form.

6. Write the equation  $5^2 = 25$  in logarithmic form.

[A]  $\log_2 25 = 5$       [B]  $\log_{25} 5 = 2$   
[C]  $\log_5 25 = 2$       [D]  $\log_{\frac{1}{2}} 25 = 5$

7. Write the equation  $3^5 = 243$  in logarithmic form.

[A]  $\log_{243} 3 = 5$       [B]  $\log_5 243 = 3$   
[C]  $\log_3 243 = 5$       [D]  $\log_{\frac{1}{5}} 243 = 3$

8. Write the equation  $9^{\frac{3}{2}} = 27$  in logarithmic form.

[A]  $\log_{27} 9 = \frac{2}{3}$       [B]  $\log_9 27 = \frac{3}{2}$   
[C]  $2\log_3 27 = 9$       [D]  $\log_{\frac{3}{2}} 27 = 9$

9. Write the equation  $6^3 = 216$  in logarithmic form.

10. Write the equation  $2^5 = 32$  in logarithmic form.

[1] A

[2] C

[3] A

[4]  $16^{\frac{3}{2}} = 64$  \_\_\_\_\_

[5]  $1024^{\frac{4}{5}} = 256$  \_\_\_\_\_

[6] C

[7] C

[8] B

[9]  $\log_6 216 = 3$  \_\_\_\_\_

[10]  $\log_2 32 = 5$  \_\_\_\_\_