



Math worksheet on 'Logarithms - Convert Exponent to Logarithm - Fraction Base (Level 1)'. Part of a broader unit on 'Logarithms - Intro'

Learn online: app.mobius.academy/math/units/logarithms_intro/

1 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^3}{6} = \frac{1}{216}$$

a

$$\log_3 \frac{1}{6} = \frac{1}{216}$$

b

$$\log_{\frac{1}{6}} \frac{1}{216} = 3$$

c

$$\log_{\frac{1}{216}} 3 = \frac{1}{6}$$

d

$$\log_{\frac{1}{216}} \frac{1}{6} = 3$$

2 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^2}{7} = \frac{1}{49}$$

a

$$\log_2 \frac{1}{49} = \frac{1}{7}$$

b

$$\log_{\frac{1}{49}} 2 = \frac{1}{7}$$

c

$$\log_{\frac{1}{49}} \frac{1}{7} = 2$$

d

$$\log_{\frac{1}{7}} \frac{1}{49} = 2$$

3 Convert the given exponent to the equivalent in logarithm form

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

a

$$\log_{\frac{1}{8}} 3 = \frac{1}{2}$$

b

$$\log_3 \frac{1}{8} = \frac{1}{2}$$

c

$$\log_{\frac{1}{2}} \frac{1}{8} = 3$$

d

$$\log_3 \frac{1}{2} = \frac{1}{8}$$

4 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^4}{10} = \frac{1}{10,000}$$

a

$$\log_{\frac{1}{10,000}} \frac{1}{10} = 4$$

b

$$\log_{\frac{1}{10}} \frac{1}{10,000} = 4$$

c

$$\log_4 \frac{1}{10,000} = \frac{1}{10}$$

5 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^2}{2} = \frac{1}{4}$$

a

$$\log_{\frac{1}{2}} \frac{1}{4} = 2$$

b

$$\log_{\frac{1}{4}} 2 = \frac{1}{2}$$

c

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

d

$$\log_2 \frac{1}{4} = \frac{1}{2}$$

6 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^3}{5} = \frac{1}{125}$$

a

$$\log_3 \frac{1}{125} = \frac{1}{5}$$

b

$$\log_3 \frac{1}{5} = \frac{1}{125}$$

c

$$\log_{\frac{1}{125}} 3 = \frac{1}{5}$$

d

$$\log_{\frac{1}{5}} \frac{1}{125} = 3$$

7 Convert the given exponent to the equivalent in logarithm form

$$\frac{1^2}{6} = \frac{1}{36}$$

a

$$\log_{\frac{1}{36}} \frac{1}{6} = 2$$

b

$$\log_{\frac{1}{36}} 2 = \frac{1}{6}$$

c

$$\log_{\frac{1}{6}} \frac{1}{36} = 2$$

d

$$\log_2 \frac{1}{36} = \frac{1}{6}$$