



Math worksheet on 'Exponents - Unit Fraction Base (Level 3)'. Part of a broader unit on 'Exponents - Fractional Bases and Exponents - Intro'

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**1** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{11}\right)^2$$

|                |                    |                 |
|----------------|--------------------|-----------------|
| <b>a</b>       | <b>b</b>           | <b>c</b>        |
| 1              | $\frac{3}{1,331}$  | $\frac{1}{13}$  |
| <b>d</b>       | <b>e</b>           | <b>f</b>        |
| $\frac{2}{22}$ | $\frac{2}{14,641}$ | $\frac{1}{121}$ |

**2** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{6}\right)^3$$

|                |                   |                 |
|----------------|-------------------|-----------------|
| <b>a</b>       | <b>b</b>          | <b>c</b>        |
| $\frac{4}{18}$ | $\frac{3}{36}$    | $\frac{1}{216}$ |
| <b>d</b>       | <b>e</b>          | <b>f</b>        |
| $\frac{1}{36}$ | $\frac{1}{1,296}$ | $\frac{3}{219}$ |

**3** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{3}\right)^4$$

|                 |                |                |
|-----------------|----------------|----------------|
| <b>a</b>        | <b>b</b>       | <b>c</b>       |
| $\frac{1}{243}$ | $\frac{1}{7}$  | $\frac{4}{12}$ |
| <b>d</b>        | <b>e</b>       | <b>f</b>       |
| $\frac{1}{81}$  | $\frac{1}{12}$ | $\frac{4}{7}$  |

**4** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{10}\right)^2$$

|                    |                |                 |
|--------------------|----------------|-----------------|
| <b>a</b>           | <b>b</b>       | <b>c</b>        |
| $\frac{3}{10}$     | $\frac{1}{20}$ | $\frac{1}{100}$ |
| <b>d</b>           | <b>e</b>       | <b>f</b>        |
| $\frac{4}{10,000}$ | $\frac{2}{20}$ | $\frac{2}{20}$  |

**5** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{9}\right)^2$$

|                |                |                 |
|----------------|----------------|-----------------|
| <b>a</b>       | <b>b</b>       | <b>c</b>        |
| $\frac{2}{18}$ | $\frac{1}{11}$ | 1               |
| <b>d</b>       | <b>e</b>       | <b>f</b>        |
| $\frac{1}{9}$  | $\frac{1}{81}$ | $\frac{2}{729}$ |

**6** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{5}\right)^3$$

|                 |                 |                |
|-----------------|-----------------|----------------|
| <b>a</b>        | <b>b</b>        | <b>c</b>       |
| $\frac{1}{15}$  | $\frac{1}{125}$ | $\frac{1}{8}$  |
| <b>d</b>        | <b>e</b>        | <b>f</b>       |
| $\frac{3}{128}$ | $\frac{1}{625}$ | $\frac{2}{15}$ |

**7** Find the answer when this fraction is raised to its exponent

$$\left(\frac{1}{2}\right)^4$$

|                |                |               |
|----------------|----------------|---------------|
| <b>a</b>       | <b>b</b>       | <b>c</b>      |
| $\frac{1}{8}$  | $\frac{1}{16}$ | $\frac{5}{4}$ |
| <b>d</b>       | <b>e</b>       | <b>f</b>      |
| $\frac{4}{32}$ | $\frac{4}{8}$  | $\frac{2}{6}$ |