MathVine - Pre-Algebra

Name_____

Evaluating Exponents

Date_____ Period_____

Evaluate.

1) $\left(\dfrac{4}{7}\right)^{1}$

2) 5^{-3}

3) $\left(\dfrac{6}{5}\right)^{0}$

4) $(-2)^{-3}$

5) 5^{-2}

6) 2^{3}

7) $\left(\dfrac{4}{5}\right)^{-2}$

8) $\left(\dfrac{2}{7}\right)^{0}$

9) $(-4)^{-3}$

10) $\left(\dfrac{1}{2}\right)^{3}$

11) $\left(\dfrac{3}{5}\right)^{-2}$

12) 3^{4}

13) $\left(\dfrac{1}{2}\right)^{-2}$

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

Name_____

Date_____ Period_____

Evaluate.

1) $\left(\dfrac{4}{7}\right)^1$

Answer: $\dfrac{4}{7}$

2) 5^{-3}

Answer: $\dfrac{1}{125}$

3) $\left(\dfrac{6}{5}\right)^0$

Answer: 1

4) $(-2)^{-3}$

Answer: $-\dfrac{1}{8}$

5) 5^{-2}

Answer: $\dfrac{1}{25}$

6) 2^3

Answer: 8

7) $\left(\dfrac{4}{5}\right)^{-2}$

Answer: $\dfrac{25}{16}$

8) $\left(\dfrac{2}{7}\right)^0$

Answer: 1

9) $(-4)^{-3}$

Answer: $-\dfrac{1}{64}$

10) $\left(\dfrac{1}{2}\right)^3$

Answer: $\dfrac{1}{8}$

11) $\left(\dfrac{3}{5}\right)^{-2}$

Answer: $\dfrac{25}{9}$

12) 3^4

Answer: 81

13) $\left(\dfrac{1}{2}\right)^{-2}$

Answer: 4

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

Answer: $\dfrac{1}{81}$

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Solution Steps

1) $\left(\dfrac{4}{7}\right)^{1}$

Any number raised to the first power is itself

$\left(\dfrac{4}{7}\right)^{1} = \dfrac{4}{7}$

2) 5^{-3}

Rewrite with a positive exponent by taking the reciprocal of the base

$\dfrac{1}{5^3}$

$\dfrac{1}{125}$

3) $\left(\dfrac{6}{5}\right)^{0}$

Any number raised to the zero power is one

$\left(\dfrac{6}{5}\right)^{0} = 1$

4) $(-2)^{-3}$

Rewrite with a positive exponent by taking the reciprocal of the base

$\dfrac{-1}{(-2)^3}$

$-\dfrac{1}{8}$

5) 5^{-2}

Rewrite with a positive exponent by taking the reciprocal of the base

$\dfrac{1}{5^2}$

$\dfrac{1}{25}$

6) 2^3

$2 * 2 * 2$

$2^3 = 8$

7) $\left(\dfrac{4}{5}\right)^{-2}$

Rewrite with a positive exponent by taking the reciprocal of the base

$\left(\dfrac{5}{4}\right)^{2}$

$\dfrac{25}{16}$

8) $\left(\dfrac{2}{7}\right)^{0}$

Any number raised to the zero power is one

$\left(\dfrac{2}{7}\right)^{0} = 1$

9) $(-4)^{-3}$

Rewrite with a positive exponent by taking the reciprocal of the base

$\dfrac{-1}{(-4)^3}$

$-\dfrac{1}{64}$

10) $\left(\dfrac{1}{2}\right)^3$

$\dfrac{1}{2} * \dfrac{1}{2} * \dfrac{1}{2}$

$\left(\dfrac{1}{2}\right)^3 = \dfrac{1}{8}$

11) $\left(\dfrac{3}{5}\right)^{-2}$

Rewrite with a positive exponent by taking the reciprocal of the base

$\left(\dfrac{5}{3}\right)^2$

$\dfrac{25}{9}$

12) 3^4

$3 * 3 * 3 * 3$

$3^4 = 81$

13) $\left(\dfrac{1}{2}\right)^{-2}$

Rewrite with a positive exponent by taking the reciprocal of the base

2^2

4

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

$\dfrac{1}{3} * \dfrac{1}{3} * \dfrac{1}{3} * \dfrac{1}{3}$

$\left(\dfrac{1}{3}\right)^4 = \dfrac{1}{81}$