Name_____

Date_____ Period_____

Evaluate.

1) 4^{-2}

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

3) $\left(\dfrac{9}{4}\right)^{0}$

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

5) $\left(\dfrac{4}{3}\right)^{0}$

6) 6^{0}

7) $\left(\dfrac{1}{3}\right)^{-3}$

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

9) 7^{3}

10) $\left(\dfrac{9}{8}\right)^{0}$

11) 3^{-4}

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

13) $(-1)^{-3}$

14) $(-4)^{-4}$

MathVine - Pre-Algebra

Name_____

Evaluating Exponents

Date_____ Period_____

Evaluate.

1) 4^{-2}

Answer: $\dfrac{1}{16}$

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

Answer: $\dfrac{1}{16}$

3) $\left(\dfrac{9}{4}\right)^0$

Answer: 1

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

Answer: $\dfrac{125}{8}$

5) $\left(\dfrac{4}{3}\right)^0$

Answer: 1

6) 6^0

Answer: 1

7) $\left(\dfrac{1}{3}\right)^{-3}$

Answer: 27

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

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

9) 7^3

Answer: 343

10) $\left(\dfrac{9}{8}\right)^0$

Answer: 1

11) 3^{-4}

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

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

Answer: $\dfrac{25}{4}$

13) $(-1)^{-3}$

Answer:
-1

14) $(-4)^{-4}$

Answer:
$\dfrac{1}{256}$

MathVine - Pre-Algebra

Name_____

Evaluating Exponents

Date_____ Period_____

Solution Steps

1) 4^{-2}
Rewrite with a positive exponent by taking the reciprocal of the base
$\dfrac{1}{4^2}$
$\dfrac{1}{16}$

2) $\left(\dfrac{1}{2}\right)^4$
$\dfrac{1}{2} * \dfrac{1}{2} * \dfrac{1}{2} * \dfrac{1}{2}$
$\left(\dfrac{1}{2}\right)^4 = \dfrac{1}{16}$

3) $\left(\dfrac{9}{4}\right)^0$
Any number raised to the zero power is one
$\left(\dfrac{9}{4}\right)^0 = 1$

4) $\left(\dfrac{2}{5}\right)^{-3}$
Rewrite with a positive exponent by taking the reciprocal of the base
$\left(\dfrac{5}{2}\right)^3$
$\dfrac{125}{8}$

5) $\left(\dfrac{4}{3}\right)^0$
Any number raised to the zero power is one
$\left(\dfrac{4}{3}\right)^0 = 1$

6) 6^0
Any number raised to the zero power is one
$6^0 = 1$

7) $\left(\dfrac{1}{3}\right)^{-3}$
Rewrite with a positive exponent by taking the reciprocal of the base
3^3
27

8) $\left(\dfrac{5}{4}\right)^{-2}$
Rewrite with a positive exponent by taking the reciprocal of the base
$\left(\dfrac{4}{5}\right)^2$
$\dfrac{16}{25}$

9) 7^3

$7 * 7 * 7$

$7^3 = 343$

10) $\left(\dfrac{9}{8}\right)^0$

Any number raised to the zero power is one

$\left(\dfrac{9}{8}\right)^0 = 1$

11) 3^{-4}

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

$\dfrac{1}{3^4}$

$\dfrac{1}{81}$

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

$\dfrac{5}{2} * \dfrac{5}{2}$

$\left(\dfrac{5}{2}\right)^2 = \dfrac{25}{4}$

13) $(-1)^{-3}$

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

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

-1

14) $(-4)^{-4}$

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

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

$\dfrac{1}{256}$