

Name : _____

Missing Base or Exponent

Find the value of x .

1) $\left(\frac{1}{3}\right)^{-x} = \frac{1}{81}$

$x =$ _____

2) $(-x)^6 = \frac{4096}{729}$

$x =$ _____

3) $\frac{512}{343} = x^3$

$x =$ _____

4) $x^5 = -\frac{3125}{1024}$

$x =$ _____

5) $\frac{128}{2187} = \left(\frac{2}{3}\right)^x$

6) $\left(-\frac{1}{6}\right)^x = \frac{1}{36}$

$x =$ _____

7) $x^3 = -\frac{216}{125}$

$x =$ _____

$\frac{16}{525} = \left(-\frac{2}{5}\right)^x$

$x =$ _____

10) $x^4 = \frac{81}{2401}$

$x =$ _____

$\frac{343}{8} = \left(\frac{7}{2}\right)^{-x}$

$x =$ _____

13) For what value of x , x

$x =$ _____

$x =$ _____

For x , $\left(\frac{6}{5}\right)^{-x} = \frac{7776}{3125}$?

15) Identify the value of x such that $x^4 = \frac{1}{6561}$.

i) $\frac{1}{7}$

ii) $-\frac{1}{6}$

iii) $-\frac{1}{9}$ or $\frac{1}{9}$

iv) $-\frac{1}{8}$ or $\frac{1}{8}$

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Name : _____

Missing Base or Exponent

Find the value of x .

1) $\left(\frac{1}{3}\right)^{-x} = \frac{1}{81}$

$x = \underline{\quad -4 \quad}$

2) $(-x)^6 = \frac{4096}{729}$

$x = \underline{\quad -\frac{4}{3} \text{ or } \frac{4}{3} \quad}$

3) $\frac{512}{343} = x^3$

$x = \underline{\quad \frac{8}{7} \quad}$

4) $x^5 = -\frac{3125}{1024}$

$x = \underline{\quad -\frac{5}{4} \quad}$

5) $\frac{128}{2187} = \left(\frac{2}{3}\right)^x$

6) $\left(-\frac{1}{6}\right)^x = \frac{1}{36}$

$x = \underline{\quad 2 \quad}$

7) $x^3 = -\frac{216}{125}$

$x = \underline{\quad -\frac{6}{5} \quad}$

$\frac{16}{525} = \left(-\frac{2}{5}\right)^x$

$x = \underline{\quad 4 \quad}$

10) $x^4 = \frac{81}{2401}$

$x = \underline{\quad -\frac{3}{7} \text{ or } \frac{3}{7} \quad}$

$\frac{343}{8} = \left(\frac{7}{2}\right)^{-x}$

$x = \underline{\quad -3 \quad}$

13) For what value of x , $x^{\frac{1}{2}} = \frac{1}{9}$

$x = \underline{\quad \frac{8}{9} \quad}$

14) For what value of x , $\left(\frac{6}{5}\right)^{-x} = \frac{7776}{3125}$?

$x = \underline{\quad -5 \quad}$

15) Identify the value of x such that $x^4 = \frac{1}{6561}$.

i) $\frac{1}{7}$

ii) $-\frac{1}{6}$

iii) $-\frac{1}{9}$ or $\frac{1}{9}$

iv) $-\frac{1}{8}$ or $\frac{1}{8}$

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