

Name : _____

Missing Base or Exponent

Find the value of x .

1) $\left(-\frac{3}{8}\right)^x = -\frac{27}{512}$

$x =$ _____

2) $\frac{2401}{6561} = (-x)^4$

$x =$ _____

3) $-\frac{1}{7776} = x^5$

$x =$ _____

4) $\left(\frac{5}{2}\right)^{-x} = \frac{625}{16}$

$x =$ _____

5) $\frac{729}{64} = \left(\frac{3}{2}\right)^x$

6) $x^2 = \frac{81}{64}$

$x =$ _____

7) $-\frac{27}{125} = (-x)^3$

$x =$ _____

$\left(\frac{6}{5}\right)^{-x} = \frac{36}{25}$

$x =$ _____

10) $x^6 = \frac{1}{729}$

$x =$ _____

$-\frac{8}{343} = x^3$

$x =$ _____

13) For what value of x , x

$x =$ _____

$x =$ _____

For x , $\left(-\frac{2}{3}\right)^x = -\frac{32}{243}$?

15) Identify the value of x such that $x^2 = \frac{1}{25}$.

i) $-\frac{1}{3}$ or $\frac{1}{3}$

ii) -5 or 5

iii) $-\frac{1}{4}$ or $\frac{1}{4}$

iv) $-\frac{1}{5}$ or $\frac{1}{5}$

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Missing Base or Exponent

Find the value of x .

1) $\left(-\frac{3}{8}\right)^x = -\frac{27}{512}$

$x =$ 3

2) $\frac{2401}{6561} = (-x)^4$

$x =$ $-\frac{7}{9}$ or $\frac{7}{9}$

3) $-\frac{1}{7776} = x^5$

$x =$ $-\frac{1}{6}$

4) $\left(\frac{5}{2}\right)^{-x} = \frac{625}{16}$

$x =$ -4

5) $\frac{729}{64} = \left(\frac{3}{2}\right)^x$

6) $x^2 = \frac{81}{64}$

$x =$ $-\frac{9}{8}$ or $\frac{9}{8}$

7) $-\frac{27}{125} = (-x)^3$

$x =$ $\frac{3}{5}$

$\left(\frac{6}{5}\right)^{-x} = \frac{36}{25}$

$x =$ -2

10) $x^6 = \frac{1}{729}$

$x =$ $-\frac{1}{3}$ or $\frac{1}{3}$

$\frac{8}{343} = x^3$

$x =$ $-\frac{2}{7}$

13) For what value of x , x

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

$x =$ 5

15) Identify the value of x such that $x^2 = \frac{1}{25}$.

For x , $\left(-\frac{2}{3}\right)^x = -\frac{32}{243}$?

i) $-\frac{1}{3}$ or $\frac{1}{3}$

ii) -5 or 5

iii) $-\frac{1}{4}$ or $\frac{1}{4}$

iv) $-\frac{1}{5}$ or $\frac{1}{5}$

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