

Name : _____

Missing Base or Exponent

Find the value of x .

1) $x^3 = \frac{64}{125}$

$x =$ _____

2) $-\frac{1}{512} = x^9$

$x =$ _____

3) $\frac{729}{8} = \left(\frac{9}{2}\right)^{-x}$

$x =$ _____

4) $(-x)^4 = \frac{1296}{2401}$

$x =$ _____

5) $\frac{6561}{256} = x^8$

6) $\left(\frac{1}{4}\right)^{-x} = \frac{1}{4096}$

$x =$ _____

7) $\left(-\frac{1}{7}\right)^x = -\frac{1}{343}$

$x =$ _____

$\left(-\frac{7}{3}\right)^x = \frac{49}{9}$

$x =$ _____

10) $\left(\frac{8}{5}\right)^{-x} = \frac{4096}{625}$

$x =$ _____

$\frac{1}{3125} = (-x)^5$

$x =$ _____

13) For what negative value of x , $\left(\frac{1}{2}\right)^x = \frac{1}{8}$?

$x =$ _____

$x =$ _____

14) For what value of x , $\left(\frac{6}{7}\right)^{-x} = \frac{36}{49}$?

15) Identify the value of x such that $\left(\frac{3}{4}\right)^x = \frac{27}{64}$.

i) 3

ii) 5

iii) 4

iv) -4

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Missing Base or Exponent

Find the value of x .

1) $x^3 = \frac{64}{125}$

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

2) $-\frac{1}{512} = x^9$

$x = \underline{-\frac{1}{2}}$

3) $\frac{729}{8} = \left(\frac{9}{2}\right)^{-x}$

$x = \underline{-3}$

4) $(-x)^4 = \frac{1296}{2401}$

$x = \underline{-\frac{6}{7} \text{ or } \frac{6}{7}}$

5) $\frac{6561}{256} = x^8$

6) $\left(\frac{1}{4}\right)^{-x} = \frac{1}{4096}$

$x = \underline{-6}$

7) $\left(-\frac{1}{7}\right)^x = -\frac{1}{343}$

$x = \underline{3}$

$\left(-\frac{7}{3}\right)^x = \frac{49}{9}$

$x = \underline{2}$

10) $\left(\frac{8}{5}\right)^{-x} = \frac{4096}{625}$

$x = \underline{-4}$

$\frac{1}{3125} = (-x)^5$

$x = \underline{\frac{1}{5}}$

13) For what negative value of x is $\left(\frac{1}{2}\right)^x = \frac{1}{8}$?

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

$x = \underline{-2}$

15) Identify the value of x such that $\left(\frac{3}{4}\right)^x = \frac{27}{64}$.

i) 3

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14) For what value of x is $\left(\frac{6}{7}\right)^{-x} = \frac{36}{49}$?