

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  $x$ ,  $\left(\frac{1}{2}\right)^x = \frac{1}{8}$ ?

$x =$  \_\_\_\_\_

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

$x =$  \_\_\_\_\_

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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