Answers

More Activities

1. *Change into decimal form .*

a) $\frac{1}{5}$

b) $\frac{1}{5^2}$

c) $\frac{1}{5^3}$

d) $\frac{1}{5} + \frac{1}{5^2} + \frac{1}{5^3} + \frac{1}{5^4}$

Ans:

a) $\frac{1}{5} = \frac{1\times2}{5\times2} = \frac{2}{10} = 0.2$

b) $\frac{1}{5^2} = \frac{1\times2^2}{5^2\times2^2} = \frac{4}{(5\times2)^2} = \frac{4}{10^2} = \frac{4}{100} = 0.04$

c) $\frac{1}{5^3} = \frac{1\times2^3}{5^3\times2^3} = \frac{8}{(5\times2)^3} = \frac{8}{10^3} = \frac{8}{1000} = 0.008$

d) $\frac{1}{5^4} = \frac{1\times2^4}{5^4\times2^4} = \frac{16}{(5\times2)^4} = \frac{16}{10^4} = \frac{16}{10000} = 0.0016$

$\therefore \frac{1}{5} + \frac{1}{5^2} + \frac{1}{5^3} + \frac{1}{5^4} = 0.2+0.04 + 0.008 + 0.0016$

$=0.2000+0.0400+0.0080+0.0016$

$=0.2496$

2. *A two digit number divided by another two digit number gives 0.525 . What are the numbers?*

Ans:

$0.525 = \frac{525}{1000} = \frac{525\div25}{1000\div25} = \frac{21}{40}$

Worksheet

1. What is the decimal form of $\frac{1}{5^5}$?

Ans:

$$\frac{1}{5^5} = \frac{1\times2^5}{5^5\times2^5} = \frac{32}{(5\times2)^5} = \frac{32}{10^5} = \frac{32}{100000} = 0.00032$$

2. Find the decimal form of the following .

a) $\frac{1}{2}$

b) $\frac{1}{2^2}$

c) $\frac{1}{2^3}$

d) $\frac{1}{2} + \frac{1}{2^2} + \frac{1}{2^3} + \frac{1}{2^4}$

Ans:

a) $\frac{1}{2} = \frac{1\times5}{2\times5} = \frac{5}{10} = 0.5$

b) $\frac{1}{2^2} = \frac{1\times5^2}{2^2\times5^2} = \frac{25}{(2\times5)^2} = \frac{25}{10^2} = \frac{25}{100} = 0.25$

c) $\frac{1}{2^3} = \frac{1\times5^3}{2^3\times5^3} = \frac{125}{(2\times5)^3} = \frac{125}{10^3} = \frac{125}{1000} = 0.125$

d) $\frac{1}{2^4} = \frac{1\times5^4}{2^4\times5^4} = \frac{625}{(2\times5)^4} = \frac{625}{10^4} = \frac{625}{10000} = 0.0625$

$\therefore \frac{1}{2} + \frac{1}{2^2} + \frac{1}{2^3} + \frac{1}{2^4} = 0.5+0.25 + 0.125 + 0.0625$

$=0.5000+0.2500+0.1250+0.0625$

$=0.9375$

3. A one digit number divided by another one digit number gives 0.8 .What are the numbers?

Ans:

$$0.8 = \frac{8}{10} = \frac{8\div 2}{10\div 2} = \frac{4}{5}$$

4) a) If $25 = 5^m$, find the value of m?

b) If $625 = 5^n$, find the value of n?

c) Find decimal form of the sum $\frac{1}{25} + \frac{1}{625}$?

Ans:

a) $25 = 5^m$

$25 = 5^2$

$\therefore 5^m = 5^2 \Longrightarrow m = 2$

b) $625 = 5^n$

$625 = 5^5$

$\therefore 5^n = 5^5 \Longrightarrow n = 5$

c) $\frac{1}{25} = \frac{1}{5^2} = \frac{1\times 2^2}{5^2\times 2^2} = \frac{4}{(5\times 2)^2} = \frac{4}{10^2} = \frac{4}{100} = 0.04$

$\frac{1}{625} = \frac{1}{5^4} = \frac{1\times 2^4}{5^4\times 2^4} = \frac{16}{(5\times 2)^4} = \frac{16}{10^4} = \frac{16}{10000} = 0.0016$

$\therefore \frac{1}{25} + \frac{1}{625} = 0.04 + 0.0016 = 0.0400 + 0.00016 = 0.0416$

5. A two digit number divided by another two digit number gives 4.625 . What are the numbers?

Ans:

$$4.625 = \frac{4625}{1000} = \frac{4625\div 125}{1000\div 125} = \frac{37}{8} = \frac{37\times 2}{8\times 2} = \frac{74}{16}$$