

# percentage

→ प्रतिशत (%)

$$\textcircled{1} \quad 20\% \rightarrow \frac{20}{100} = \frac{1}{5}$$

wait  
देनापिए

$$\textcircled{2} \quad 5 \text{ का } \% \text{ में बढ़ाने } \rightarrow 5 \times 100 = 500\%$$

$$\textcircled{3} \quad 0.743 \text{ का } \% \text{ बढ़ाने } \rightarrow \frac{0.743 \times 100}{1000} = \frac{743}{10} = 74.3\%$$

$$\textcircled{4} \quad 35 \text{ का } \% \text{ बढ़ाने } = 35 \times 100 \\ = 3500\%$$

# 1 को % में बदलने

$$1 \times 100 = 100\%$$

$$1 = 100\%$$

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$$\frac{1}{2} = 50\%$$

$$\frac{1}{3} = 33\frac{1}{3}\% = 33.33\%$$

$$\frac{1}{4} = 25\%$$

$$\frac{1}{5} = 20\%$$

$$\frac{1}{6} = 16\frac{2}{3}\% = 16.66\%$$

$$\frac{1}{7} = 14\frac{2}{7}\% = 14.28\%$$

$$\frac{1}{8} = 12\frac{1}{2}\% = 12.5\%$$

$$\frac{1}{9} = 11\frac{1}{9}\% = 11.11\%$$

$$\frac{1}{10} = 10\%$$

$$\frac{1}{11} = 9\frac{1}{11}\% = 9.09\%$$

$$\frac{1}{12} = 8\frac{1}{3}\% = 8.33\%$$

$$\frac{1}{13} = 7\frac{6}{13}\% = 7.69\%$$

$$\frac{1}{14} = 7\frac{1}{7}\% = 7.14\%$$

$$\frac{1}{15} = 6\frac{2}{3}\% = 6.66\%$$

$$\frac{1}{16} = 6\frac{1}{4}\% = 6.25\%$$

$$\frac{1}{16} \times \frac{25}{100} = 6\frac{1}{4}\%$$
$$\frac{25}{4} \times \frac{25}{100} = 6\frac{1}{4}\%$$
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$$12\frac{1}{2}\% \rightarrow \frac{1}{8}$$

$$37\frac{1}{2}\% \rightarrow \frac{3}{8}$$

$$62\frac{1}{2}\% \rightarrow \frac{5}{8}$$

$$87\frac{1}{2}\% \rightarrow \frac{7}{8}$$

$$16\frac{2}{3}\% = \frac{1}{6}$$

$$6\frac{2}{3}\% = \frac{1}{15}$$

$$33\frac{1}{3}\% = \frac{1}{3}$$

$$66\frac{2}{3}\% = \frac{2}{3}$$

$$9\frac{1}{11}\% = \frac{1}{11}$$

$$11\frac{1}{9}\% = \frac{1}{9}$$

$$316\frac{2}{3}\% = \frac{\cancel{1950}^{19}}{3 \times \cancel{100}_2} = \frac{19}{6}$$

$$\frac{300}{100}$$

$$300\% + 16\frac{2}{3}\%$$

$$3 + \frac{1}{6} = \frac{19}{6}$$

$$709\frac{1}{11}\% = 700\% + 9\frac{1}{11}\%$$
$$7 + \frac{1}{11} = \frac{78}{11}$$

$516\frac{7}{9}$  का % में बदलें.

$$516 + \frac{7}{9}$$

$$51600\% + \frac{700}{9}\%$$

$$51600\% + 77\frac{7}{9}\%$$

$$51677\frac{7}{9}\%$$

$$\begin{array}{r} \text{भाजक } 9 \quad \text{भाज्य } 700 \quad \text{भागफल } 77 \\ 9 \overline{) 700} \\ \underline{63} \phantom{0} \\ 70 \\ \underline{63} \\ 7 \text{ शेषफल} \end{array}$$

$$\frac{\text{भागफल}}{\text{भाजक}} = \frac{77}{9}$$

#  $723\frac{1}{5}$  की % में बदलें।

$$723 + \frac{1}{5}$$

$$723 \times 100\% + \frac{1}{5} \times 100\%$$

$$72300\% + 20\% = 72320\%$$

## # Whole value | multiplying factor | Scaling factor

+20%

① 120%

②  $\frac{120}{100} = 1.20$

③  $\frac{120}{100} = \frac{6}{5}$

①  $+20\% \rightarrow \frac{+1}{5} = \frac{6}{5}$

②  $-16\frac{2}{3}\% \rightarrow \frac{-1}{6} = \frac{5}{6}$

③  $+33\frac{1}{3}\% \rightarrow \frac{+1}{3} = \frac{4}{3}$

④  $-11\frac{1}{9}\% \rightarrow \frac{-1}{9} = \frac{8}{9}$

#  $\left[ A + B \pm \frac{A \times B}{100} \right] \%$

①  $+20\%$ ,  $+10\%$

$$\left( A + B \pm \frac{A \times B}{100} \right) \%$$

$$20 + 10 + \frac{20 \times 10}{100} = 32\% \rightarrow \text{Profit}$$

②  $-20\%$ ,  $+10\%$

$$\left( A + B \pm \frac{A \times B}{100} \right) \%$$

$$-20 + 10 - \frac{20 \times 10}{100} = -12\% \rightarrow \text{Loss}$$

+ x + = +
- x - = +
- x + = -
+ x - = -

③  $+20\%$ ,  $-10\%$

$$\left( A + B \pm \frac{A \times B}{100} \right) \%$$

$$20 - 10 - \frac{20 \times 10}{100}$$

$$20 - 10 - 2 = 8\%$$

④  $-20\%$ ,  $-10\%$

$$-20 - 10 + \frac{20 \times 10}{100}$$

$$-30 + 2 = -28\%$$

$$28\% \text{ Profit}$$

⑤  $-20\%$ ,  $+20\%$

$$-20 + 20 - \frac{20 \times 20}{100}$$

$$= -4\% = 4\% \text{ Profit}$$

⇒ Equal change always loss

$$\text{Loss \%} = \frac{x^2}{100}$$

$$\text{Loss \%} = \frac{20^2}{100} = 4\%$$

⑥  $+13\%$ ,  $-13\%$

$$\text{Loss \%} = \frac{13^2}{100} = 1.69\%$$