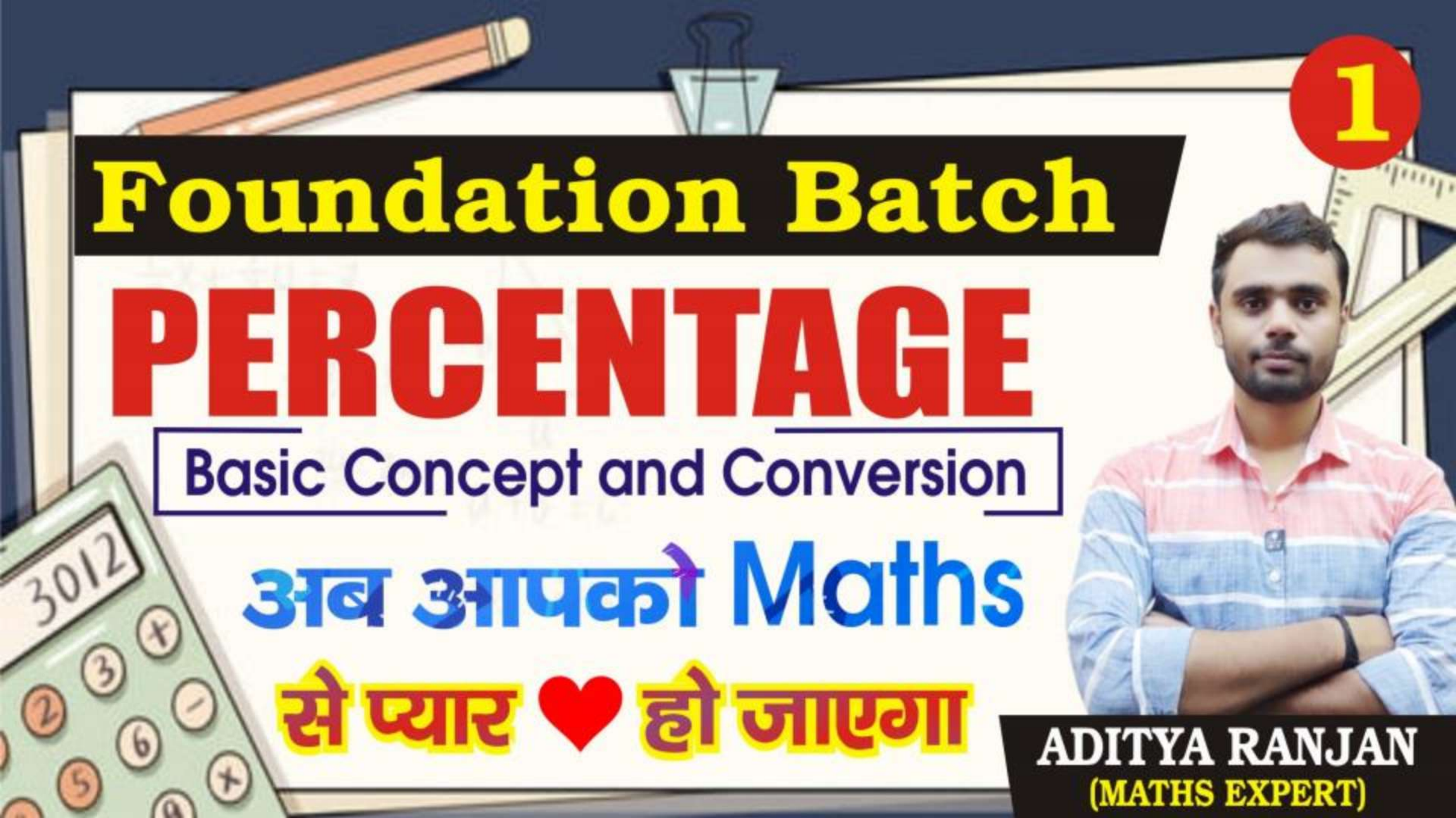
Foundation Batch

PERCENTAGE

Basic Concept and Conversion

1



अब आपको Maths

से प्यार ♥ हो जाएगा

ADITYA RANJAN

(MATHS EXPERT)

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SHERSHAAH BATCH

PRE + MAINS

(Arithmetic + Advance)

Starting From Geometry

For All Exam

VALIDITY-LIFETIME

- ZERO TO HERO LEVEL
- UPDATED SHEETS & PDF
- SMART APPROACH
- CLASS NOTES (BILINGUAL)

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ADITYA RANJAN
(MATHS EXPERT)

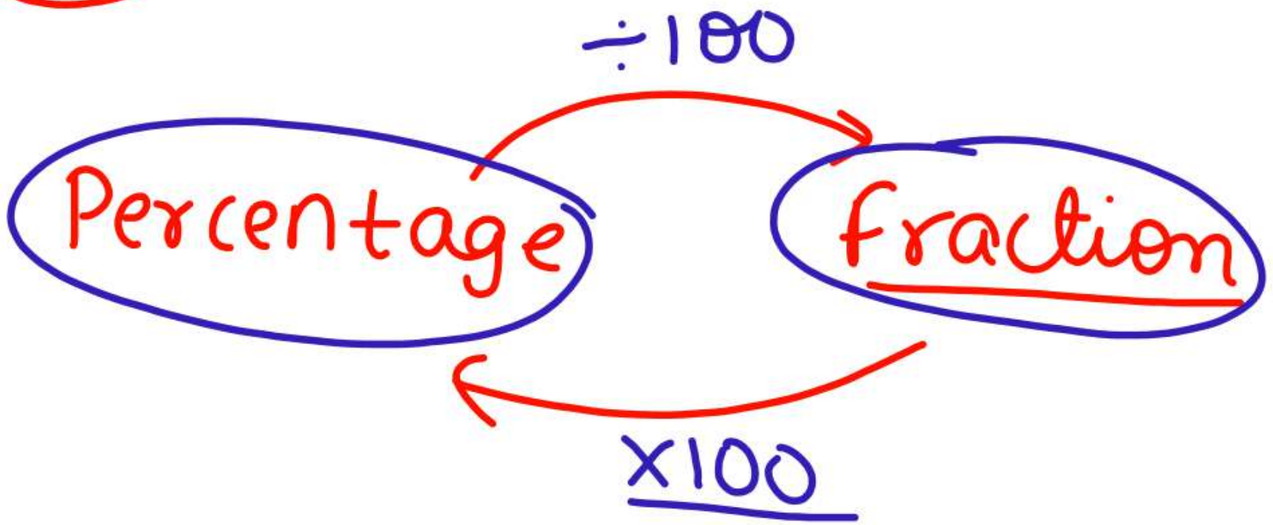
PERCENTAGE

(प्रतिशतता)

COMPLETE CLASS NOTES BY ADITYA RANJAN

Percent (प्रतिशत)

Basic



10%

$10\% = \frac{10}{100} = \frac{1}{10}$

$20\% = \frac{20}{100} = \frac{1}{5}$

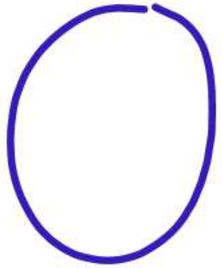
$$11\% = \frac{11}{100}$$

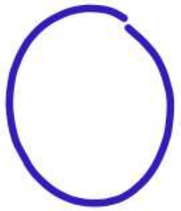
$$12.5\% = \frac{125}{1000} = \frac{1}{8}$$

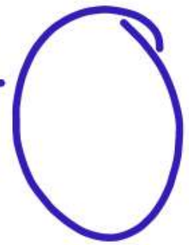
$$\frac{1}{3} \times 100\% = \frac{100}{3} = 33\frac{1}{3}\%$$

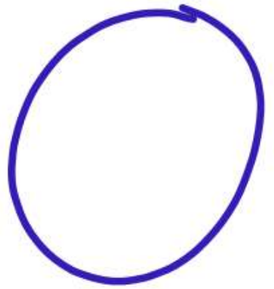
$$\frac{1}{\cancel{4}} \times \overset{25}{\cancel{100}}\% = 25\%$$

$$\frac{1}{\cancel{20}} \times \overset{5}{\cancel{100}}\% = 5\%$$

10% = 

20% = 

25% = 

50% = 

FRACTION	PERCENTAGE
$\frac{1}{1}$ $\times 100\%$	100%
$\frac{1}{2}$ $\times 50\%$	50%
$\frac{1}{3}$ $\times 100\%$	$33\frac{1}{3}\%$
$\frac{1}{4}$ $\times 100\%$	25%
$\frac{1}{5}$	20%

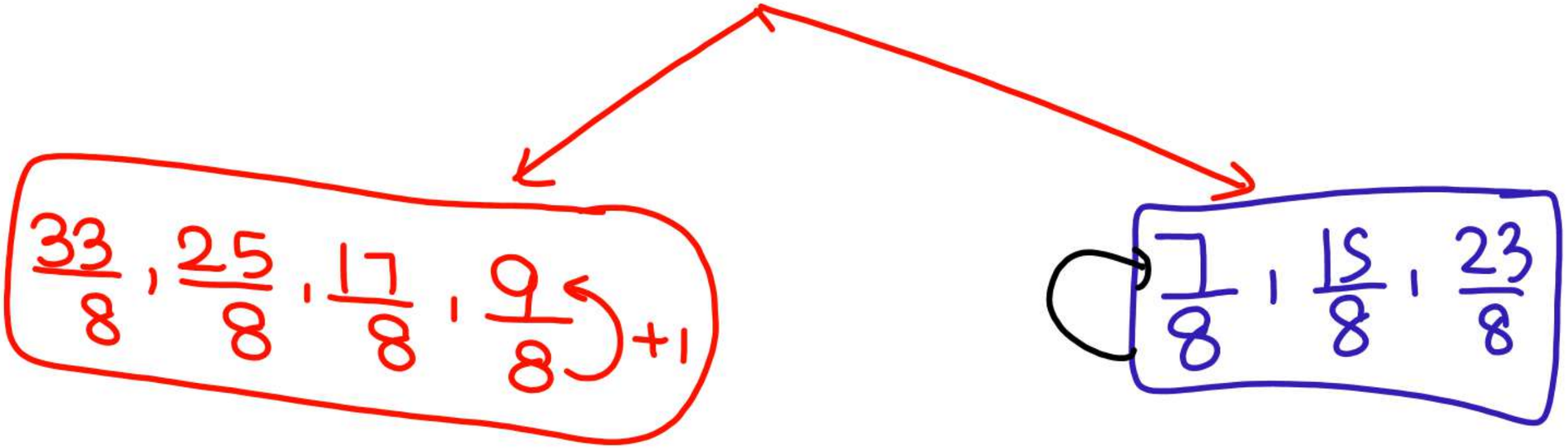
FRACTION	PERCENTAGE
$\frac{1}{6}$ X100%	$16\frac{2}{3}\%$ 16.66%
$\frac{1}{7}$	$14\frac{2}{7}\%$ = 14.28%
$\frac{1}{8}$	$12\frac{1}{2}\%$ = 12.5%
$\frac{1}{9}$	$11\frac{1}{9}\%$
$\frac{1}{10}$	10%

FRACTION	PERCENTAGE
$\frac{1}{11}$	$9\frac{1}{11}\%$
$\frac{1}{12}$ $\times \frac{25}{100}\% = \frac{25}{3} = 8\frac{1}{3}\%$	$8\frac{1}{3}\%$
$\frac{1}{13}$	$7\frac{9}{13}\%$
$\frac{1}{14}$	$7\frac{1}{7}\%$
$\frac{1}{15}$	$6\frac{2}{3}\%$

FRACTION	PERCENTAGE
$\frac{1}{16}$	$6\frac{1}{4}\%$
$\frac{1}{17}$	$5\frac{15}{17}\%$
$\frac{1}{18}$	$5\frac{5}{9}\%$
$\frac{1}{19}$	$5\frac{5}{19}\%$
$\frac{1}{20}$	5%

6.25%

Fraction



$$\frac{9}{8} = 1 + \frac{1}{8} = 100\% + 12.5\% = 112.5\%$$

$$\frac{17}{8} = 2 + \frac{1}{8} = 200\% + 12.5\% = 212.5\%$$

$$\frac{65}{8} = 8 + \frac{1}{8} = 800\% + 12.5\% = 812.5\%$$

$$\frac{41}{8} = 5 + \frac{1}{8} = \underline{512.5\%}$$

$$\frac{7}{8} = 1 - \frac{1}{8} = 100\% - 12.5\% = 87.5\%$$

$$\frac{15}{8} = 2 - \frac{1}{8} = 200\% - 12.5\% = 187.5\%$$

$$\frac{23}{8} = 3 - \frac{1}{8} = 300\% - 12.5\% = 287.5\%$$

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

$2\times$ ( ) $\times 2$

$\frac{2}{8} = 25\%$

$\frac{3}{8} = 37.5\%$

$\frac{4}{8} = 50\%$

$$\left(\frac{1}{7} = 14\frac{2}{7}\%\right) \times 2$$

$$\frac{2}{7} = 28\frac{4}{7}\%$$

$$\frac{3}{7} = 42\frac{6}{7}\%$$

$$\frac{4}{7} = 56\frac{8}{7}\% = 56 + \frac{8}{7} = 56 + 1 + \frac{1}{7} = 57\frac{1}{7}\%$$

$$\frac{8}{7} = 1\frac{1}{7} = 1 + \frac{1}{7}$$

$56\frac{9}{7} = 57\frac{2}{7}$

$73\frac{15}{13} = 74\frac{2}{13}$

$41\frac{32}{7} = 45\frac{4}{7}$

FRACTION	PERCENTAGE	FRACTION	PERCENTAGE
$\frac{1}{1}$	100%	$\frac{1}{11}$	$9\frac{1}{11}\%$
$\frac{1}{2}$	50%	$\frac{1}{12}$	$8\frac{1}{3}\%$
$\frac{1}{3}$	$33\frac{1}{3}\%$	$\frac{1}{13}$	$7\frac{9}{13}\%$
$\frac{1}{4}$	25%	$\frac{1}{14}$	$7\frac{1}{7}\%$
$\frac{1}{5}$	20%	$\frac{1}{15}$	$6\frac{2}{3}\%$
$\frac{1}{6}$	$16\frac{2}{3}\%$	$\frac{1}{16}$	$6\frac{1}{4}\%$
$\frac{1}{7}$	$14\frac{2}{7}\%$	$\frac{1}{17}$	$5\frac{15}{17}\%$
$\frac{1}{8}$	$12\frac{1}{2}\%$	$\frac{1}{18}$	$5\frac{5}{9}\%$
$\frac{1}{9}$	$11\frac{1}{9}\%$	$\frac{1}{19}$	$5\frac{05}{19}\%$
$\frac{1}{10}$	10%	$\frac{1}{20}$	5%

$$83.33\% = 50\% + 33.33\%$$

$$= \frac{1}{2} + \frac{1}{3} = \frac{5}{6}$$

$$111\% = (100\% + 10\% + 1\%)$$

find 111% of 500 → Exams

(100% + 10% + 1%) of 500

= 500 + 50 + 5 = 555

Q. Find 111% of 468

Ans $(100\% + 10\% + 1\%)$ of 468

$= 468$

46.8

4.68

519.48

Questions based on increase / decrease in number.

10% of 468

= 46.8

468% of 10

= 46.8

$a\%$ of b = $b\%$ of a

800% of 87.5

87.5% of 800

$\frac{7}{8} \times \frac{800}{100} = 700$

50%+14.28%

- 64.28% of 259 $= \left(\frac{1}{2}+\frac{1}{7}\right) \times 259 = 129.5+37$
  $= 166.5$
- 343% of 289 $= (300-10-1)\%$ of 343
  $= 1029 - 34.3 - 3.43 = 991.27$
- 218.5% of 496
- 176.66% of 111

10 : 20

1 : 2

$\frac{1}{2} \times 100 = 50\%$

1 : 3

112.3 : 336.9

$\frac{1}{3} \times 100\% = 33.33\%$

$\frac{2}{3} : \frac{1}{3}$

$\frac{2}{1} \times 100\%$

2/3 is what percent of 1/3 ?

1/3 का कितना प्रतिशत 2/3 है ?

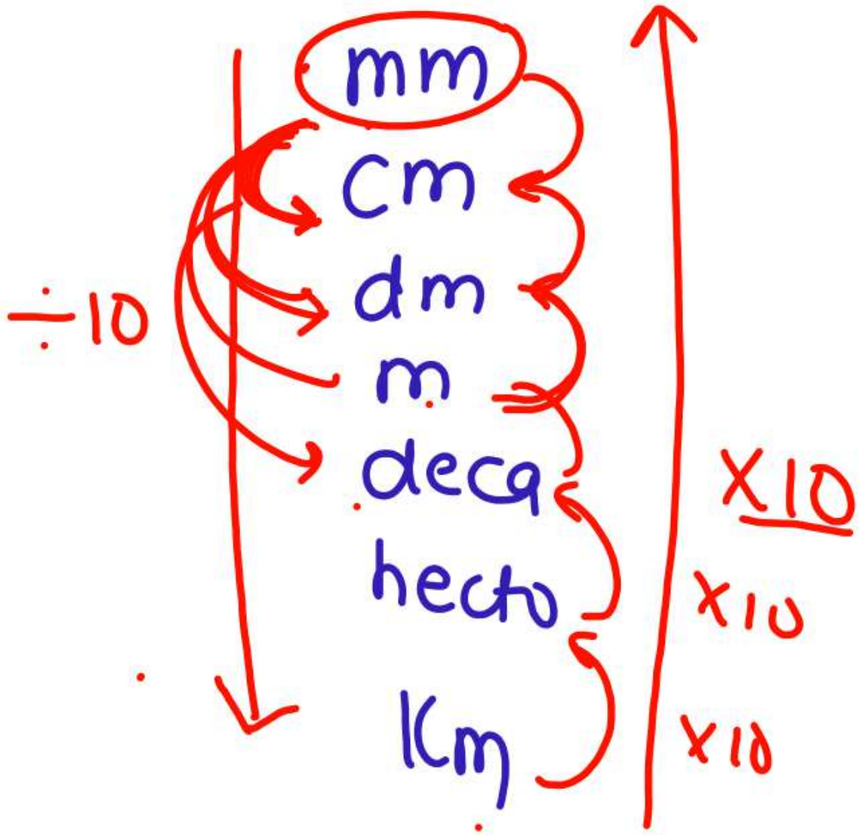
a) 10 %

b) 20 %

c) 50 %

d) 200 %

Metric System



1 km = 1000 m

1 m = 1000 mm

80 meter is what percent of 5 km ?

80 मीटर, 5 किमी का कितना प्रतिशत है?

$\frac{80m}{5 \times 1000m} \times 100\%$

$= 1.6\%$

(a) 1 %

(b) 2 %

(c) 1.6 %

(d) 3.2 %

8% of 5 L

$= \frac{8}{100} \times 5 \times 1000$ mL

8% of 5 litre is :

5 लीटर का 8% है :

SSC CPO 15 March 2019 (Morning)

(a) 0.4 ml **(b) 400 ml**

(c) 40 ml **(d) 4 ml**

2.4 × 100%

2.4 converted to percentage is :

2.4 को प्रतिशत में बदलने पर क्या आएगा?

SSC CPO 16 March 2019 (Afternoon)

(a) 0.24%
(b) 24%
(c) 240%
(d) 2.4%

$\frac{3}{10} = 0.3$

$\frac{3}{100} = 0.03$

$\frac{3}{1000} = 0.003$

$\frac{53}{10} = 5.3$

$\frac{53}{100} = 0.53$

$\frac{53}{1000} = 0.053$

$$\frac{63.5}{10} = 6.35$$

$$\frac{63.5}{100} = 0.635$$

$$\frac{63.5}{1000} = .0635$$

$0.9\% = \frac{0.9}{100} = 0.009$

$$\begin{array}{r} 0.900 \\ 0.009 \\ \hline 0.891 \end{array}$$

What is the difference between 0.9 and 0.9%?

0.9 और 0.9% के बीच क्या अंतर है?

SSC MTS 13 August 2019 (Evening)

(a) 0.981 **(b) 0.891**

(c) 0.198 **(d) 8.91**

20% × 20% a = b × 20%

4% of a

If 20% of a = b, then b% of 20 is equal to :

यदि a का 20% = b है, तो b का 20% किसके बराबर होगा?

SSC CPO 16 March 2019 (EVening)

(a) 4% of a
(b) 16% of a
(c) 8% of a
(d) 2% of a

$\frac{1}{2} \times 49\%$ of $X = Y \times 50\%$

24.5% of X

If 49% of X = Y, then Y% of 50 is :

यदि X का 49% = Y है, तो 50 का Y% ज्ञात करें।

CPO 2019 24/211/2020 (Evening)

(a) 24.5% of X **(b) 24.5% of Y**

(c) 40% of Y **(d) 50% of X**

$$\frac{x\% \text{ of } y}{y\% \text{ of } z} = \frac{150}{300} = \frac{1}{2}$$

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

$$2x = 2$$

If x% of y is 150 and y% of z is 300, then then the relation between x and z is :

यदि y का x%150 है और z का y% 300 है, तो x और z में क्या संबंध है?

SSC CHSL 5 July 2019 (Evening)

(a) $z = x$

(b) $z = \frac{x}{3}$

(c) $z = \frac{x}{2}$

(d) $z = 2x$

$3 \times 8 + 3 \times 5$

75% of 260 + 30% of 320 = ?

260 का 75% + 320 का 30% = ?

SSC MTS 14 August 2019 (Evening)

(a) 301 ④ **(b) 271** ①

(c) 281 ② **(d) 291** ③

$6 + 6 = 3$

$\therefore$

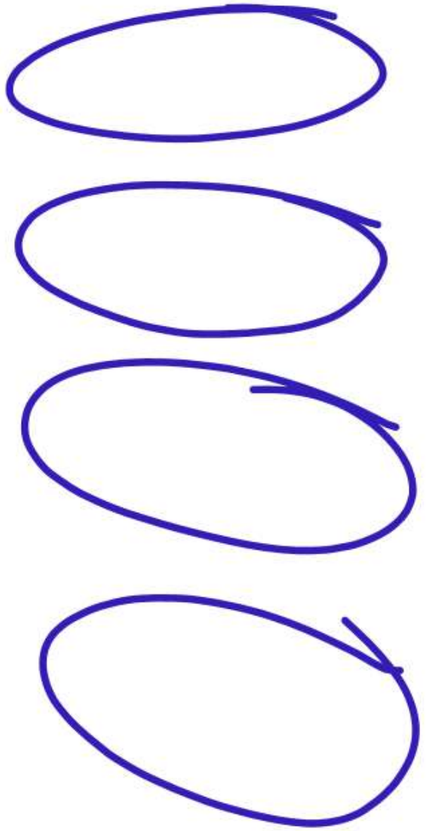
77.3% of 260 + 31.7% of 320

$8 \times 8 + 2 \times 5$

$1 + 1 = 2$

10% of 450 + 11% of 468 + 23% of 529

(5)



$11.57\% \text{ of } 46.8 + 0.93\% \text{ of } 511.37$

$5 \times 9 + 3 \times 8$

$9 + 6$

$= 6$ ✓

$a\% \text{ of } 240 = c\% \text{ of } a = 117.6$

$c = 240$

$a\% \text{ of } 240 = \frac{117.6}{10}$

$a = 49$

If a% of 240 is c% of a is 117.6, then the value of a + c is :

यदि 240 का a%, a का c% है, तो a + c का मान है :

SSC CHSL 18/03/2020 (Morning)

(a) 289 (b) 144

(c) 260 (d) 196

18
9
27

$27 + x = 72$

What is to be added to 15% of 180 so that the sum is equal to 20% of 360?

180 के 15% में क्या जोड़ा जाना चाहिए ताकि योग 360 के 20% के बराबर हो?

SSC CGL 2019 Tier-II (18/11/2020)

(a) 40
(b) 60
(c) 50
(d) 45

$25\% \text{ of } \frac{1}{2} \text{ of } x = 2.5 \times 30\% \text{ of } \frac{1}{4} \text{ of } y$

$\frac{x}{y} = \frac{3}{2}$

$\frac{1}{2} \times 100\%$

If 25% of half of x is equal to 2.5 times the value of 30% of one-fourth of y, then x is what percent more or less than y?

यदि x के आधे का 25%, y के एक-चौथाई के 30% मान के 2.5 गुना के बराबर है, तो x, y से कितना प्रतिशत अधिक या कम है?

CGL Tier-II (13 September 2019)

(a) $33\frac{1}{3}\%$ more (b) 50% more

(c) $33\frac{1}{3}\%$ less (d) 50% less

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$\frac{1}{8}$	$12\frac{1}{2}\%$	$\frac{1}{18}$	$5\frac{5}{9}\%$
$\frac{1}{9}$	$11\frac{1}{9}\%$	$\frac{1}{19}$	$5\frac{05}{19}\%$
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