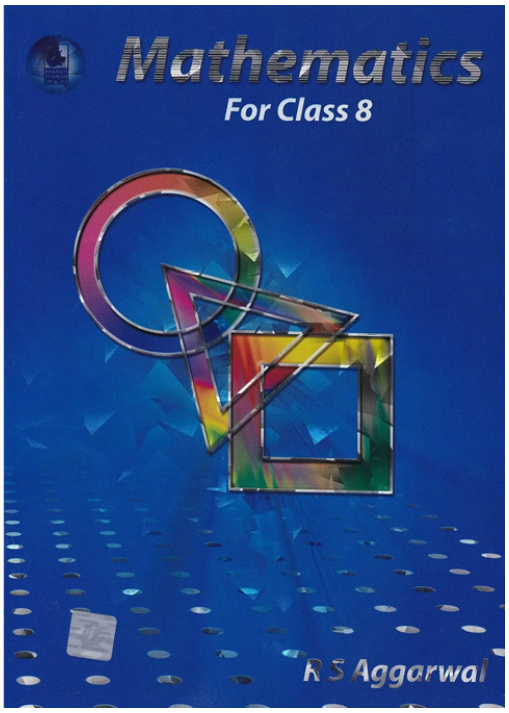
RS Aggarwal Solutions for Class 8 Maths Chapter 9–Percentage

Class 8 - Chapter 9 Percentage



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RS Aggarwal Solutions for Class 8 Maths Chapter 9–Percentage

Class 8: Maths Chapter 9 solutions. Complete Class 8 Maths Chapter 9 Notes.

RS Aggarwal Solutions for Class 8 Maths Chapter 9–Percentage

RS Aggarwal 8th Maths Chapter 9, Class 8 Maths Chapter 9 solutions

Ex 9A

Q1

Answer :

$(i)\ 48\%$

$= \frac{48}{100}$

$= \frac{12}{25}$

$(ii)\ 220\%$

$= \frac{220}{100}$

$= \frac{11}{5}$

$(iii)\ 2.5\%$

$= \frac{2.5}{100}$

$= \frac{25}{1000}$

$= \frac{1}{40}$

Ex 9B

Q1.

Answer :

(d) 60%

$\frac{3}{5} = \left(\frac{3}{5} \times 100\right)\%$
$= 60\%$

Q2.

0.8%
$= \frac{0.8}{100}$
$= \frac{8}{10X100}$
$= \frac{8}{1000}$
= 0.008 (b)

Q3.

Answer :

(c) 120%
$6 : 5 = \frac{6}{5}$
$= \left(\frac{6}{5} \times 100\right)\%$
$= 120\%$

Q4.

Answer :

(d) 180

Let x be the required number. Then, we have :

$5\%\ of\ x = 9$

$\Rightarrow \left(x \times \frac{5}{100}\right) = 9$

$\Rightarrow \frac{5x}{100} = 9$

$\Rightarrow x = \left(9 \times \frac{100}{5}\right)$

$\Rightarrow x = 180$

Q5.

Answer :

(c) $133\frac{1}{3}\%$

$\text{Required percentage} = \left(\frac{120}{90} \times 100\right)\% = 133\frac{1}{3}\%$

Q6.

Answer :

(d) 2.5%

$\text{Required percentage} = \left(\frac{250}{(10\times1000)} \times 100\right)\% = 2.5\%$

Q7

Q8

Answer :

(c) 15

Let the required number be x. Then, we have :

$x\%\ of\ 400 = 60$

$\Rightarrow \left(400 \times \frac{x}{100}\right) = 60$

$\Rightarrow \frac{400x}{100} = 60$

$\Rightarrow 4x = 60$

$\Rightarrow x = \frac{60}{4}$

$\Rightarrow x = 15$

Q9

Answer :

(d) 560

Let the required number be x. Then, we have :

$(180\%\ of\ x) \div 2 = 504$

$\Rightarrow \left(x \times \frac{180}{100}\right) \div 2 = 504$

$\Rightarrow \left(\frac{180x}{100}\right) \div 2 = 504$

$\Rightarrow \left(\frac{180x}{100} \times \frac{1}{2}\right) = 504$

$\Rightarrow \frac{9x}{10} = 504$

$\Rightarrow x = \left(504 \times \frac{10}{9}\right)$

$\Rightarrow x = 560$

Q10

Answer :

(a) Rs 160

$20\%\ \ of\ \ Rs\ \ 800 = Rs\ \ \left(800 \times \frac{20}{100}\right)$

$= Rs\ \ 160$

Q11

Answer :

(c) 175

Let the maximum marks be x. Then, we have :

$56\%\ of\ x = \left(x \times \frac{56}{100}\right)$

$= \frac{56x}{100}$

Now, $\frac{56x}{100} = 98$

$\Rightarrow x = \left(98 \times \frac{100}{56}\right)$

$\Rightarrow x = 175$

Q12.

Answer :

(b) decrease by 1 %

Let x be the number.

A 10% increase will give a new number, $\frac{110}{100}x = \frac{11}{10}x$

The number is then reduced by 10%.

The new number will be $\frac{90}{100}\left(\frac{11}{10}\text{x}\right) = \frac{990}{1000}x = \frac{99}{100}x$

Difference $= \text{x} - \frac{99}{100}\text{x} = \frac{1}{100}\text{x}$

Percentage of decrease $= \frac{1}{100}x \times \frac{1}{\text{x}} \times 100 = 1\%$

Q13.

Answer :

(a) $18\frac{3}{4}\%$

$4\ h\ 30\ min = (4 \times 60 \times 60) + (30 \times 60)$
$= 16200\ sec$
$24\ h = (24 \times 60 \times 60)$
$= 86400\ sec$
Now, $\left(\frac{16200}{86400} \times 100\right)\% = 18\frac{3}{4}\%$

Q14.

Answer :

(c) 1200

Let x be the total number of examinees.
Percentage of the examinees passed $= 65\%$
Percentage of the examinees failed $= 35\%$
Number of the examinees failed $= (35\%\ \text{of}\ x)$
$= \left(x \times \frac{35}{100}\right)$
$= \frac{35x}{100}$
Now, $\frac{35x}{100} = 420$
$\Rightarrow x = \left(420 \times \frac{100}{35}\right)$
$\Rightarrow x = 1200$

Q15.

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Answer :

(a) 50

Let x be the required number. Then, we have :

$20\%\ of\ x + 40 = x$

$\Rightarrow \left(x \times \frac{20}{100}\right) + 40 = x$

$\Rightarrow \frac{20x}{100} + 40 = x$

$\Rightarrow \left(\frac{20x}{100} - x\right) = -40$

$\Rightarrow \frac{-80x}{100} = -40$

$\Rightarrow x = \left(40 \times \frac{100}{80}\right)$

$\Rightarrow x = 50$

Q16.

Answer :

(c) 120

Let the required number be x. Then, we have :

$x - \left(27\frac{1}{2}\%\ \text{of}\ x\right) = 87$

$\Rightarrow x - \left(\frac{55}{2}\%\ \text{of}\ x\right) = 87$

$\Rightarrow x - \left(x \times \frac{55}{2} \times \frac{1}{100}\right) = 87$

$\Rightarrow x - \frac{11x}{40} = 87$

$\Rightarrow \frac{29x}{40} = 87$

$\Rightarrow x = \left(87 \times \frac{40}{29}\right)$

$\Rightarrow x = 120$

Q17.

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Answer :

(c) 0.25%

Required percentage $= \left(\frac{0.05}{20} \times 100\right)\% = 0.25\%$

Q18.

Answer :

(d) 300%

Required percentage $= \left(\frac{1206}{3} \times \frac{1}{134} \times 100\right)\% = 300\%$

Q19.

Answer :

(a) *x*

Let the required number be z**. Then, we have :**

$x\%\ of\ y = y\%\ of\ z$

$\Rightarrow \left(y \times \frac{x}{100}\right) = \left(z \times \frac{y}{100}\right)$

$\Rightarrow \frac{yx}{100} = \frac{zy}{100}$

$\Rightarrow z = \left(\frac{yx}{100} \times \frac{100}{y}\right)$

$\Rightarrow z = x$

Q20.

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Answer :

(a) x

Required percentage $= \left(\frac{1}{35} \times \frac{7}{2} \times 100\right)\% = 10\%$

Ex 9C

Q1.

Answer :

$(\mathbf{i})\ 24\% = \frac{24}{100}$

$= \frac{6}{25}$

$(ii)\ 105\% = \frac{105}{100}$

$= 1.05$

$(iii)\ 4\ :\ 5 = \frac{4}{5}$

$= \left(\frac{4}{5} \times 100\right)\%$

$= 80\%$

$(iv)\ 56\% = \frac{56}{100}$

$= \frac{14}{25}$

$= 14\ :\ 25$

Q2.

Answer :

Let the required number be x. Then, we have :

$(34\%\ \text{of}\ \mathbf{x}) = 85$

$\Rightarrow \left(\mathbf{x} \times \frac{34}{100}\right) = 85$

$\Rightarrow \frac{34\mathbf{x}}{100} = 85$

$\Rightarrow \mathbf{x} = \left(85 \times \frac{100}{34}\right)$

$\Rightarrow \mathbf{x} = 250$ **Hence, the required number is** $250.$

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Q3.

Answer :

Let the value of the machine last year be Rs x.

Then, its present value = 90% of Rs x

$$= Rs\left(x \times \frac{90}{100}\right)$$

$$= Rs\ \frac{90x}{100}$$

Now, $\frac{90x}{100} = 54000$

$$\Rightarrow x = \left(54000 \times \frac{100}{90}\right)$$

$$\Rightarrow x = \text{Rs } 60000$$

Hence, the value of the machine last year was Rs $60,000$.

Q4.

Answer :

Percentage of copper $= 30\%$

Percentage of nickel $= 42\%$

Percentage of zinc $= \{100 - (30 + 42)\}\%$

$= 28\%$

$\therefore$ Mass of zinc in 1 kg of the alloy $= \left(\frac{28}{100} \times 1\right)$ kg $= 0.28$ kg $= 280$ g

Q5.

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Answer :

Let the total number of students be x. Then, we have :

Percentage of boys $= 60\%$

Percentage of girls $= 40\%$

$\therefore$ Number of girls $= 40\%$ of x

$$= \left(x \times \frac{40}{100}\right)$$

$$= \frac{40x}{100}$$

Now, $\frac{40x}{100} = 14$

$\Rightarrow x = \left(14 \times \frac{100}{40}\right)$

$\Rightarrow x = 35$

$\therefore$ Total number of students $= 35$

Q6.

Answer :

We have :

$8\frac{1}{3}\% = \frac{25}{3}\%$

$$= \left(\frac{25}{3} \times \frac{1}{100}\right)$$

$$= \frac{1}{12}$$

$$= 0.083$$

Also, $\frac{4}{25} = 0.16$

The third number is 0.15.

Clearly, 0.16 is the largest.

i.e., $\frac{4}{25}$ is the largest.

Q7.

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Answer :

(d) 10%

$\text{Required percentage} = \left(\frac{1}{45} \times \frac{9}{2} \times 100\right)\% = 10\%$

Q8.

Answer :

(c) 120

$\text{Let the required number be } x$

$x - (30\% \text{ of } x) = 84$

$\Rightarrow \left\{x - \left(x \times \frac{30}{100}\right)\right\} = 84$

$\Rightarrow \left(x - \frac{30x}{100}\right) = 84$

$\Rightarrow \frac{70x}{100} = 84$

$\Rightarrow x = \left(84 \times \frac{100}{70}\right)$

$\Rightarrow x = 120$

Q9.

Answer :

(b) 15%

Let the required number be x. Then, we have :

$(x\% \ of \ 320) = 48$

$\Rightarrow \left(320 \times \frac{x}{100}\right) = 48$

$\Rightarrow \frac{320x}{100} = 48$

$\Rightarrow x = \left(48 \times \frac{100}{320}\right)$

$\Rightarrow x = 15\%$

Q10.

Answer :

(d) 120%

Required percentage $= \left(\frac{54}{45} \times 100\right)\% = 120\%$

Q11.

Answer :

(c) 80

Let the required number be x. Then, we have :

$(25\% \ of \ x) + 60 = x$

$\Rightarrow \left(x \times \frac{25}{100}\right) + 60 = x$

$\Rightarrow \frac{25x}{100} + 60 = x$

$\Rightarrow \left(\frac{25x}{100} - x\right) = -60$

$\Rightarrow \frac{-75x}{100} = -60$

$\Rightarrow x = \left(60 \times \frac{100}{75}\right)$

$\Rightarrow x = 80$

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Q12.

Answer :

(c) 240

Let the required number be x. Then, we have :

$$(5\% \text{ of } x) = 12$$

$$\Rightarrow \left(x \times \frac{5}{100}\right) = 12$$

$$\Rightarrow \frac{5x}{100} = 12$$

$$\Rightarrow x = \left(12 \times \frac{100}{5}\right)$$

$$\Rightarrow x = 240$$

Q13.

Answer :

(i) $7\frac{1}{2}\%$ of Rs $1200 = \left(\frac{15}{2}\% \text{ of Rs } 1200\right)$

$= \text{Rs } \left(\frac{15}{2} \times \frac{1}{100} \times 1200\right)$

$= \text{Rs } 90$

Hence, $7\frac{1}{2}\%$ of Rs $1200 = \text{Rs } 90$

(ii) Required percentage $= \left(\frac{240}{3 \times 1000} \times 100\right)\% = 8\%$

Hence, 240 ml is 8% of 3 L.

(iii) $(x\% \text{ of } 35) = 42$

$\Rightarrow \left(35 \times \frac{x}{100}\right) = 42$

$\Rightarrow \frac{35x}{100} = 42$

$\Rightarrow x = \left(42 \times \frac{100}{35}\right)$

$\Rightarrow x = 120\%$

$\therefore$ If x% of 35 is 42, then $x = 120\%$.

(iv) $\left(\frac{12}{5} \times 100\right)\% = 240\%$

Hence, $\frac{12}{5} = 240\%$

(v) Let the required number be x. Then, we have :

$120 = x\% \text{ of } 80$

$\Rightarrow \left(80 \times \frac{x}{100}\right) = 120$

$\Rightarrow \frac{80x}{100} = 120$

$\Rightarrow x = \left(120 \times \frac{100}{80}\right)$

$\Rightarrow x = 150\%$

$\therefore 120 = 150\% \text{ of } 80$

Q14.

Answer :

(i) 6% of $8 = \left(8 \times \frac{6}{100}\right)$

$= 0.48$

Hence, it is false.

(ii) $6 : 5 = \frac{6}{5}$

$= \left(\frac{6}{5} \times 100\right)\%$

$= 120\%$

Hence, it is false.

(iii) $\frac{3}{5} = \left(\frac{3}{5} \times 100\right)\%$

$= 60\%$

Hence, it is true.

(iv) 6 *hours* $= \left(\frac{6}{24} \times 100\right)\% = 25\%$

Hence, it is true.

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He was born on January 2, 1946 in a village of Delhi. He graduated from Kirori Mal College, University of Delhi. After completing his M.Sc. in Mathematics in 1969, he joined N.A.S. College, Meerut, as a lecturer. In 1976, he was awarded a fellowship for 3 years and joined the University of Delhi for his Ph.D. Thereafter, he was promoted as a reader in N.A.S. College, Meerut. In 1999, he joined M.M.H. College, Ghaziabad, as a reader and took voluntary retirement in 2003. He has authored more than 75 titles ranging from Nursery to M. Sc. He has also written books for competitive examinations right from the clerical grade to the I.A.S. level.

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