

Exercise 9A

1. Question

Express each of the following as a fraction:

(i) 48% (ii) 220% (iii) 2.5%

Answer

(i) 48% means, 48 divided by 100.

$$\text{So, } 48\% = 48 / 100$$

$$= 12 / 25$$

(ii) 220% means, 220 divided by 100.

$$\text{So, } 220\% = 220 / 100$$

$$= 11 / 5$$

(iii) 2.5% means, 2.5 divided by 100.

$$\text{So, } 2.5\% = 2.5 / 100$$

$$= 1 / 40$$

2. Question

Express each of the following as a decimal:

(i) 6% (ii) 72% (iii) 125%

Answer

(i) 6% means, 6 divided by 100.

$$\text{So, } 6\% = 6 / 100$$

$$= 3 / 50 = 0.06$$

(ii) 72% means, 72 divided by 100.

$$\text{So, } 72\% = 72 / 100$$

$$= 18 / 25 = 0.72$$

(iii) 125% means, 125 divided by 100.

$$\text{So, } 125\% = 125 / 100$$

$$= 5 / 4 = 1.25$$

3. Question

Express each of the following as a percentage:

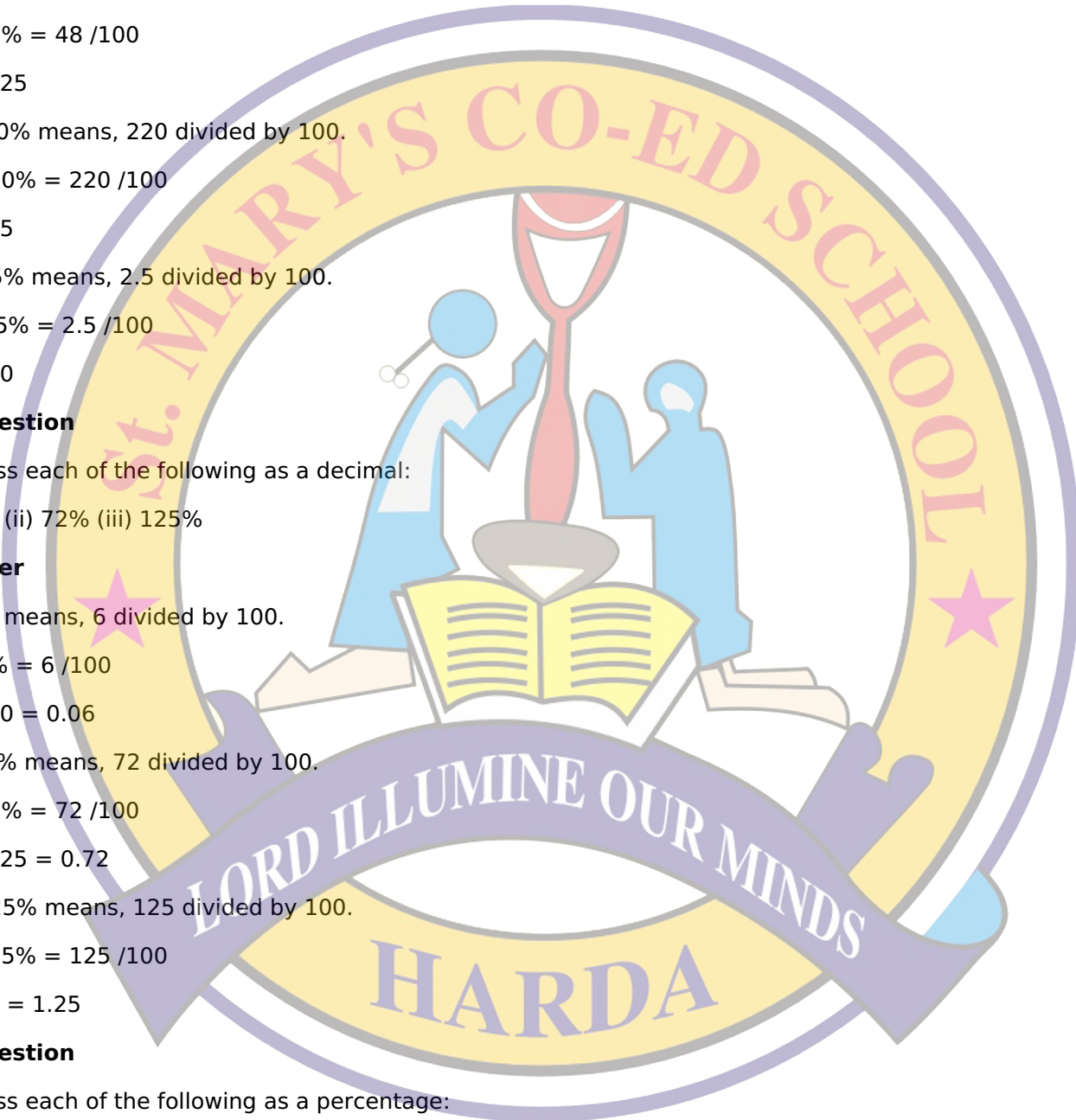
(i) $\frac{9}{25}$ (ii) $\frac{3}{125}$ (iii) $\frac{12}{5}$

Answer

$$(i) \frac{9}{25} = \left(\frac{9}{25} \times 100 \right) \%$$

$$= (9 \times 4) \%$$

$$= 36\%$$



$$(ii) \frac{3}{125} = \left(\frac{3}{125} \times 100 \right) \%$$

$$= 2.4\%$$

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

$$= (12 \times 20) \%$$

$$= 240\%$$

4. Question

Convert the ratio 4 : 5 to percentage.

Answer

$$4 : 5 = \frac{4}{5}$$

$$= \left(\frac{4}{5} \times 100 \right) \% \text{ [Because } 100\% = 1]$$

$$= 80\%$$

5. Question

Express 125% as a ratio.

Answer

$$125\% = 125/100$$

$$= 5/4 \text{ [Divided by 25]}$$

$$= 5 : 4$$

6. Question

Which is largest in $6\frac{2}{3}\%$, $\frac{3}{20}$ and 0.14?

Answer

$$6\frac{2}{3}\%$$

$$= (20/3) \%$$

$$= (20/3 \times 1/100)$$

$$= 1/15$$

$$= 0.06 \text{ ____ (i)}$$

$$\frac{3}{20} = 0.15 \text{ ____ (ii)}$$

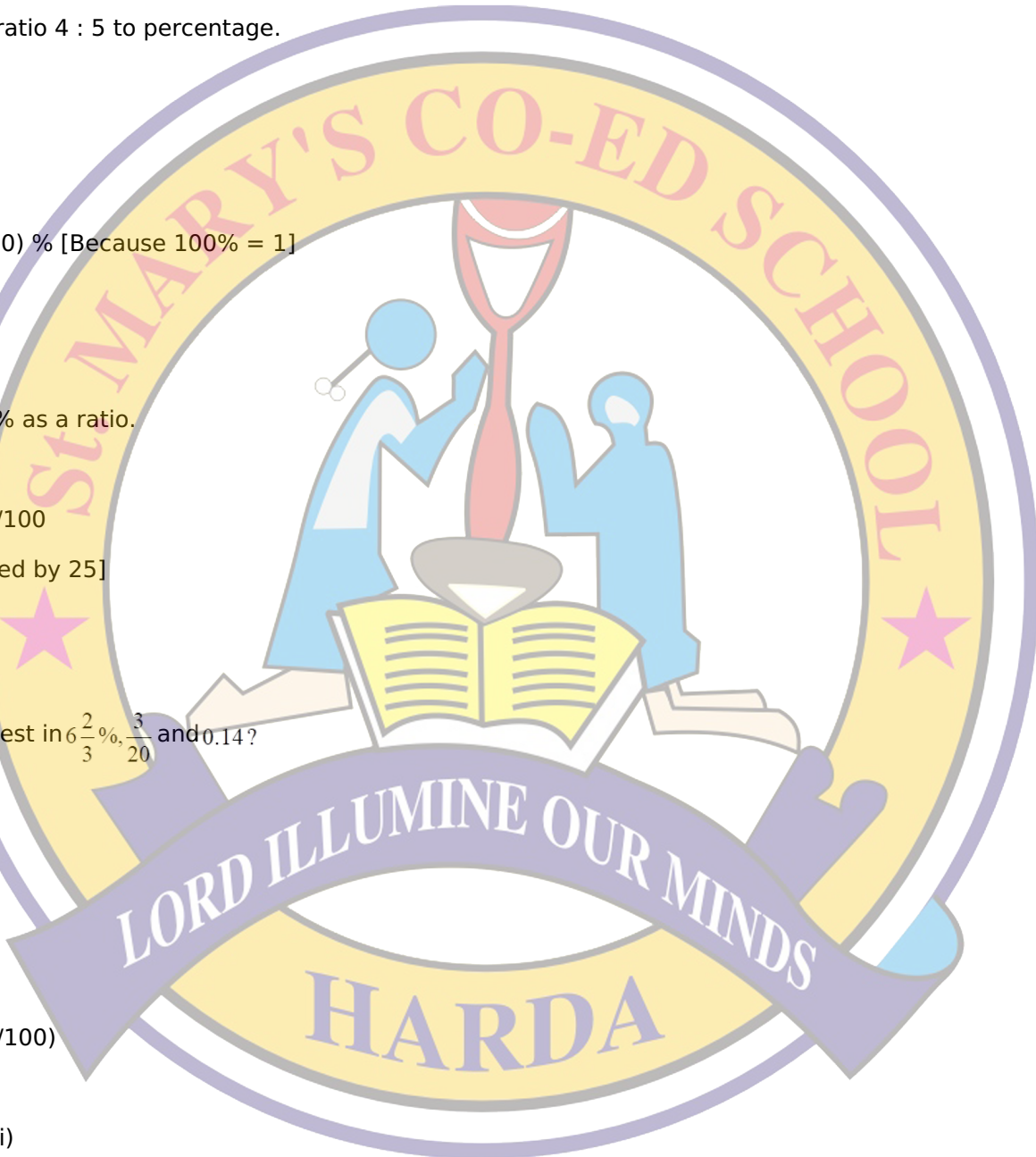
$$0.14 \text{ ____ (iii)}$$

From equation (i), (ii) and (iii),

$$0.15 > 0.14 > 0.06$$

7 A. Question

Which is largest in 175, 262



Answer

$$\begin{aligned}\text{Percentage} &= (96 / 150 \times 100) \% \\ &= (96 / 3 \times 2) \% \text{ [Divided by 50]} \\ &= (32 \times 2) \% \\ &= 64\%\end{aligned}$$

7 B. Question

What per cent of 5 kg is 200 g?

Answer

$$\begin{aligned}5 \text{ kg} &= 5 \times 1000 \\ &= 5000 \text{ g}\end{aligned}$$

Now,

$$\begin{aligned}\text{Percentage} &= (200 / 5000 \times 100) \% \\ &= (200 / 50) \% \text{ [Divided by 100]} \\ &= 4 \%\end{aligned}$$

7 C. Question

What per cent of 2 litres is 250 mL?

Answer

$$\begin{aligned}2 \text{ liters} &= 2 \times 1000 \\ &= 2000 \text{ mL}\end{aligned}$$

Now,

$$\begin{aligned}\text{Percentage} &= (250 / 2000 \times 100) \% \\ &= (250 / 20) \% \text{ [Divided by 100]} \\ &= 12.5 \%\end{aligned}$$

8. Question

Find $4\frac{1}{2}\%$ of 3600.

Answer

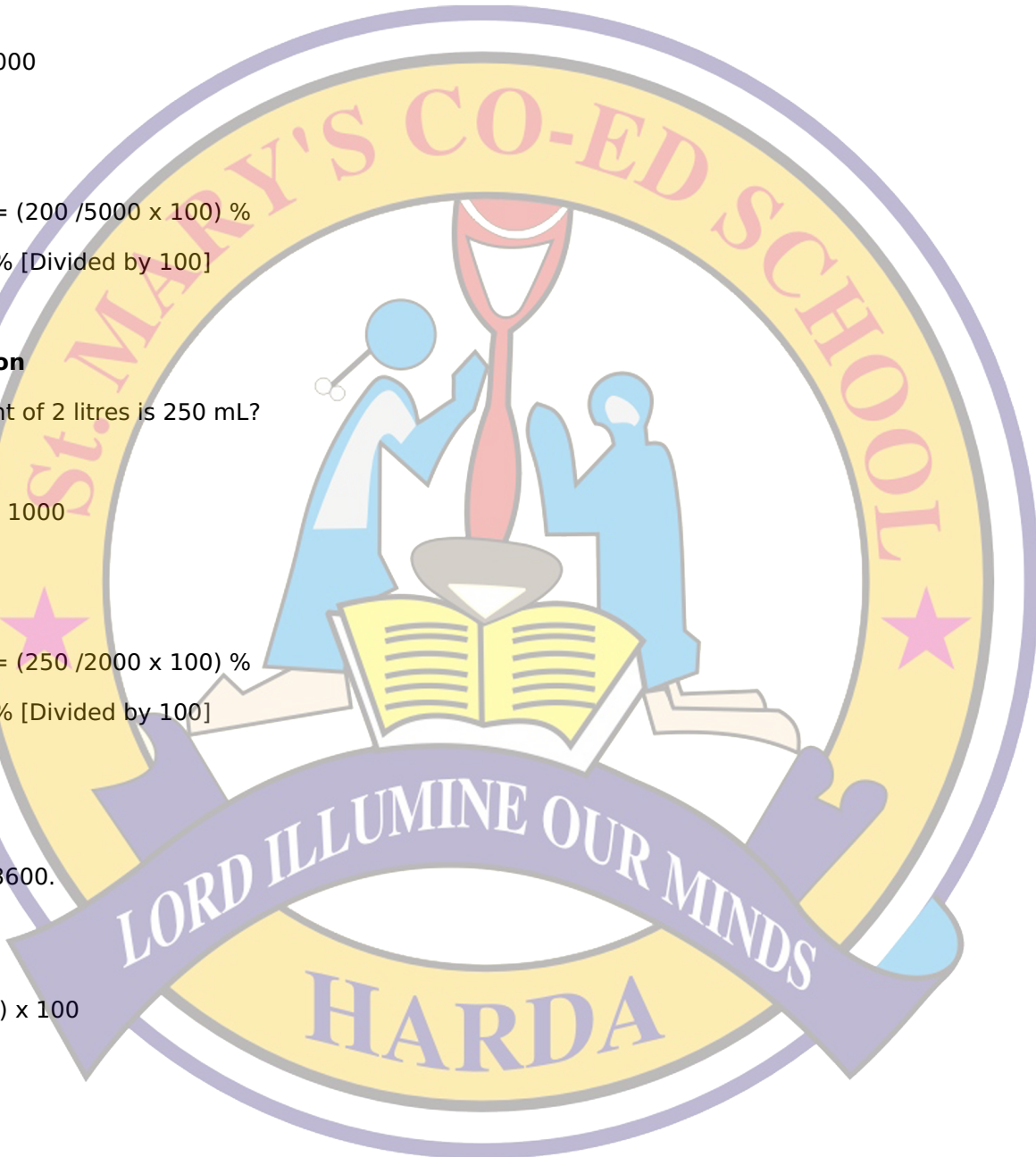
$$\begin{aligned}4\frac{1}{2}\% &= (9 / 2) \times 100 \\ &= 9 / 200\end{aligned}$$

Now,

$$\begin{aligned}9 / 200 \text{ of } 3600 &= 9 / 200 \times 3600 \\ &= 9 \times 18 \text{ [Divided by 200]} \\ &= 162\end{aligned}$$

9. Question

If 16% of number is 72, find the number.

Answer

$\therefore 16\%$ of Z is 72.

$$\Rightarrow 16/100 \times Z = 72$$

$$\Rightarrow 16Z = 7200$$

$$\Rightarrow Z = 7200/16$$

$$\Rightarrow Z = 450$$

10. Question

A man saves 18% of his monthly income. If he saves Rs. 3780 per month, what is his monthly income?

Answer

Let Rs. Z his monthly income.

$\therefore$ Saving = 18% of Rs. Z

$$\Rightarrow 3780 = 18/100 \times Z$$

$$\Rightarrow 3780 = 9/50 \times Z$$

$$\Rightarrow Z = 3780 \times 50/9$$

$$\Rightarrow Z = 420 \times 50$$

[Because $420 \times 9 = 3780$]

$$\Rightarrow Z = 21000$$

Therefore, his monthly income is Rs 21000/-

11. Question

A football team wins 7 games, which is 35% of total games played. How many games were played in all?

Answer

Let, total games played = Z

$\therefore$ percentage of games won = 35% of Z

$$\Rightarrow 7 = 35/100 \times Z$$

$$\Rightarrow 7 = 7/20 \times Z \text{ [Divided by 5]}$$

$$\Rightarrow Z = 7 \times 20/7$$

$$\Rightarrow Z = 20$$

12. Question

Amit was given an increment of 20% on his salary. If his new salary is Rs. 30600, what was his salary before the increment?

Answer

Let Amit's old salary = Z

$\therefore$ Salary after increment = $(Z + 20Z/100)$

Now,

$$\Rightarrow (Z + 20Z/100) = 30600$$

$$\Rightarrow (100Z + 20Z)/100 = 30600$$

$$\Rightarrow 120Z = 30600 \times 100$$

$$\Rightarrow Z = 25500$$

Sonal attended her school on 204 days in a full year. If her attendance is 85%, find the number of days on which the school was opened.

Answer

Let the number of days the school was opened = Z

∴ Percentage of attendance = 85% of Z

Now,

$$85\% \text{ of } Z = 204$$

$$\Rightarrow 85/100 \times Z = 204$$

$$\Rightarrow Z = 204 \times 100/85$$

$$\Rightarrow Z = 204 \times 20/17 \text{ [Divided by 5]}$$

$$\Rightarrow Z = 12 \times 20$$

$$\Rightarrow Z = 240$$

14. Question

A's income is 20% less than that of B. By what per cent is B's income more than A's?

Answer

Let B's income = 100

Then, A's income = $(100 - 20) = 80$

∴ B's income more than A's income = $(100 - 80)/80 \times 100$

$$= 20/80 \times 100$$

$$= 1/4 \times 100$$

$$= 25$$

15. Question

The price of petrol goes up by 10%. By how much per cent must a motorist reduce the consumption of petrol so that the expenditure on it remains unchanged?

Answer

Let the consumption of petrol = 1 unit and its cost = Rs.100

∴ New cost of 1 unit of petrol = Rs.110

Now,

Rs.110 will yield 1 unit of petrol.

∴ Rs.100 will yield $(1/110 \times 100)$

$$= 10/11 \text{ unit of petrol}$$

Now,

$$\text{Reduction of consumption} = 1 - (10/11)$$

$$= 1/11$$

Percentage of reduction = $(1/11 \times 100) \%$

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

16. Question

ago?

Answer

Let population of the town a year ago = Z

$\therefore$ Present population = 108% of Z

$$\Rightarrow 54000 = Z \times 108/100$$

$$\Rightarrow 54000 = Z \times 27/25$$

$$\Rightarrow Z = 54000 \times 25/27$$

$$\Rightarrow Z = 2000 \times 25$$

$$\Rightarrow Z = 50000$$

17. Question

The value of a machine depreciates every year by 20%. If the present value of the machine be Rs. 160000, what was its value last year?

Answer

Let the value of machine last year = Z

$\therefore$ Present value = (100 - 20) % of Z

$$\Rightarrow 160000 = 80\% \text{ of } Z$$

$$\Rightarrow 160000 = Z \times 80/100$$

$$\Rightarrow Z = 160000 \times 100/80$$

$$\Rightarrow Z = 2000 \times 100$$

$$\Rightarrow Z = 200000$$

18. Question

An alloy contains 40% copper, 32% nickel and rest zinc. Find the mass of zinc in one kg of the alloy.

Answer

Given,

Percentage of copper = 40%

Percentage of nickel = 32%

$\therefore$ Percentage of zinc = $\{100 - (40 + 32)\}$ %

$$= 28 \%$$

Now,

Mass of zinc in 1 kg of the alloy = $(28 \times 1/100)$ kg

$$= 0.28 \text{ kg}$$

$$= 0.28 \times 1000 \text{ g}$$

$$= 280 \text{ g}$$

19. Question

Balanced diet should contain 12% of proteins, 25% of fats and 63% of carbohydrates. If a child needs 2600 calories in his food daily, find in calories the amount of each of these in his daily food intake.

Answer

Amount of proteins = 12% of 2600

$$= 2600 \times \frac{12}{100}$$

$$= 26 \times 12$$

= 312 calories

Amount of fats = 25% of 2600

$$= 2600 \times \frac{25}{100}$$

$$= 26 \times 25$$

= 650 calories

Amount of carbohydrates = 63% of 2600

$$= 2600 \times \frac{63}{100}$$

$$= 26 \times 63$$

= 1638 calories

20. Question

Gunpowder contains 75% nitre and 10% sulphur. Find the amount of gunpowder which carries 9 kg nitre. What amount of gunpowder would contain 2.5 kg sulphur?

Answer

Let the amount of gunpowder which carries 9 kg nitre = Z

$$\therefore 75\% \text{ of } Z = 9 \text{ kg}$$

$$\Rightarrow Z \times 75/100 = 9$$

$$\Rightarrow Z = 9 \times 100/75$$

$$\Rightarrow Z = 9 \times 4/3$$

$$\Rightarrow Z = 12 \text{ kg}$$

Now,

Let the amount of gunpowder which carries 2.5 kg sulphur = K

$$\therefore 10\% \text{ of } K = 2.5 \text{ kg}$$

$$\Rightarrow K \times 10/100 = 2.5$$

$$\Rightarrow K = 2.5 \times 100/10$$

$$\Rightarrow K = 2.5 \times 10$$

$$\Rightarrow K = 25 \text{ kg}$$

21. Question

Divide Rs. 7000 among A, B and C such that A gets 50% of what B gets and B gets 50% of what C gets.

Answer

Let the amount of money gets by C = Rs. Z

$$\therefore \text{Amount of money B gets} = (50\% \text{ of Rs. } Z)$$

$$\therefore \text{Amount of money A gets} = (50\% \text{ of B})$$

Now,

$$Z + (50\% \text{ of Rs.}Z) + (25\% \text{ of Rs.}Z) = \text{RS.}7000$$

$$\Rightarrow Z + (Z \times 50/100) + (Z \times 25/100) = 7000$$

$$\Rightarrow Z + 50 Z/100 + 25 Z/100 = 7000$$

$$\Rightarrow 175 Z/100 = 7000$$

$$\Rightarrow Z = 7000 \times 100/175$$

$$\Rightarrow Z = 7000 \times 4/7$$

$$\Rightarrow Z = 4000$$

$$\therefore \text{C gets} = \text{Rs.}4000$$

$$\therefore \text{Amount of money B gets} = (50\% \text{ of Rs.}Z)$$

$$= (50\% \text{ of Rs.}4000)$$

$$= (\text{Rs.}4000 \times 50/100)$$

$$= \text{Rs.}2000$$

$$\therefore \text{Amount of money A gets} = (25\% \text{ of Rs.}Z)$$

$$= (25\% \text{ of Rs.}4000)$$

$$= (\text{Rs.}4000 \times 25/100)$$

$$= \text{Rs.}1000$$

22. Question

Find the percentage of pure gold in 22-carat gold, if 24-carat gold is 100% pure.

Answer

22-carat gold contains 22 parts out of 24 parts.

$$\therefore \text{Percentage of pure gold in 22-carat gold} = \left(\frac{22}{24} \times 100 \right) \% = 91\frac{2}{3} \%$$

Hence, 22-carat gold contains $91\frac{2}{3}\%$ of pure gold.

23. Question

The salary of an officer is increased by 25%. By what per cent should the new salary be decreased to restore the original salary?

Answer

Let the original salary = Rs.100

Then,

$$\text{After increment of } 25\% = 100 (1 + 25/100)$$

$$= 100 (125/100)$$

$$= \text{Rs.}125$$

Now,

To restore the original salary,

Let the new salary decreased by Z%

$$\therefore 125(1 - Z/100) = 100$$

$$\Rightarrow (1 - Z/100) = 100/125$$

$$\Rightarrow (1 - Z/100) = 4/5$$

$$\Rightarrow Z/100 = 1/5 [1 - 4/5 = 1/5]$$

$$\Rightarrow Z = 100/5$$

$$\Rightarrow Z = 20\%$$

Exercise 9B

1. Question

Choose the correct answer: $\frac{3}{5} = ?$

A. 30%

B. 40%

C. 45%

D. 60%

Answer

$$3/5 = (3/5 \times 100) \%$$

$$= (3 \times 20) \%$$

$$= 60\%$$

2. Question

0.8% when expressed as a percentage, is

A. 0.08

B. 0.008

C. 8

D. 0.8

Answer

$$0.8\% = 0.8/100$$

$$= 0.008$$

3. Question

6:5 when expressed as a percentage, is

A. $83\frac{1}{3}\%$

B. 90%

C. 120%

D. 6.5%

Answer

$$6 : 5 = 6/5$$

$$= (6/5 \times 100) \% [100\% = 1]$$



= 120 %

4. Question

5% of a number is 9. The number is

A. 45

B. 90

C. 135

D. 180

Answer

Let number = Z

Then,

5% of Z = 9

$\Rightarrow 5/100 \times Z = 9$

$\Rightarrow 5Z = 900$

$\Rightarrow Z = 180$

5. Question

What per cent of 90 is 120?

A. 75%

B. $33\frac{1}{3}\%$

C. $133\frac{1}{3}\%$

D. none of these

Answer

Let Z% of 90 is 120

$\therefore Z/100 \times 90 = 120$

$\Rightarrow 90Z = 120 \times 100$

$\Rightarrow Z = 12000/90$

$\Rightarrow Z = 400/3$

$\Rightarrow Z = 133\frac{1}{3}\%$

6. Question

What per cent of 10 kg 250 g?

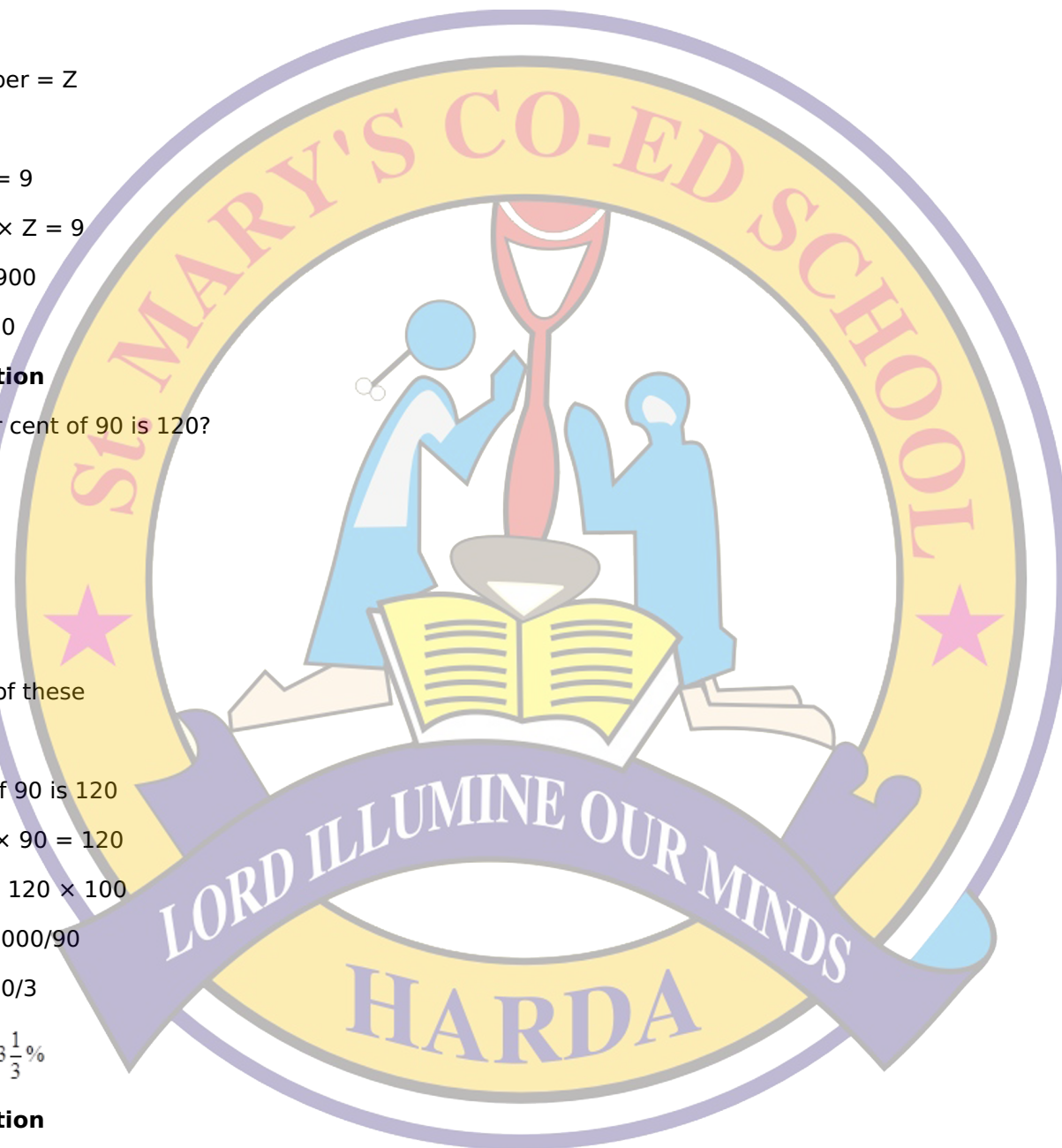
A. 25%

B. 5%

C. 10%

D. 2.5%

Answer



$$= 10000 \text{ g}$$

Let $Z\%$ of 1000 is 250

$$\therefore Z/100 \times 10000 = 250$$

$$\Rightarrow 100 Z = 250$$

$$\Rightarrow Z = 250/100$$

$$\Rightarrow Z = 2.5\%$$

7. Question

$$40\% \text{ of } ? = 240$$

A. 60

B. 600

C. 6000

D. 960

Answer

$$\text{Let, } 40\% \text{ of } Z = 240$$

$$\Rightarrow 40/100 \times Z = 240$$

$$\Rightarrow Z = 240 \times 100/40$$

$$\Rightarrow Z = 6 \times 100 [40 \times 6 = 240]$$

$$\Rightarrow Z = 600$$

8. Question

$$? \% \text{ of } 400 = 60$$

A. 6

B. 12

C. 15

D. 20

Answer

$$\text{Let, } Z\% \text{ of } 400 = 60$$

$$\Rightarrow Z/100 \times 400 = 60$$

$$\Rightarrow 4 Z = 60$$

$$\Rightarrow Z = 60/4$$

$$\Rightarrow Z = 15$$

9. Question

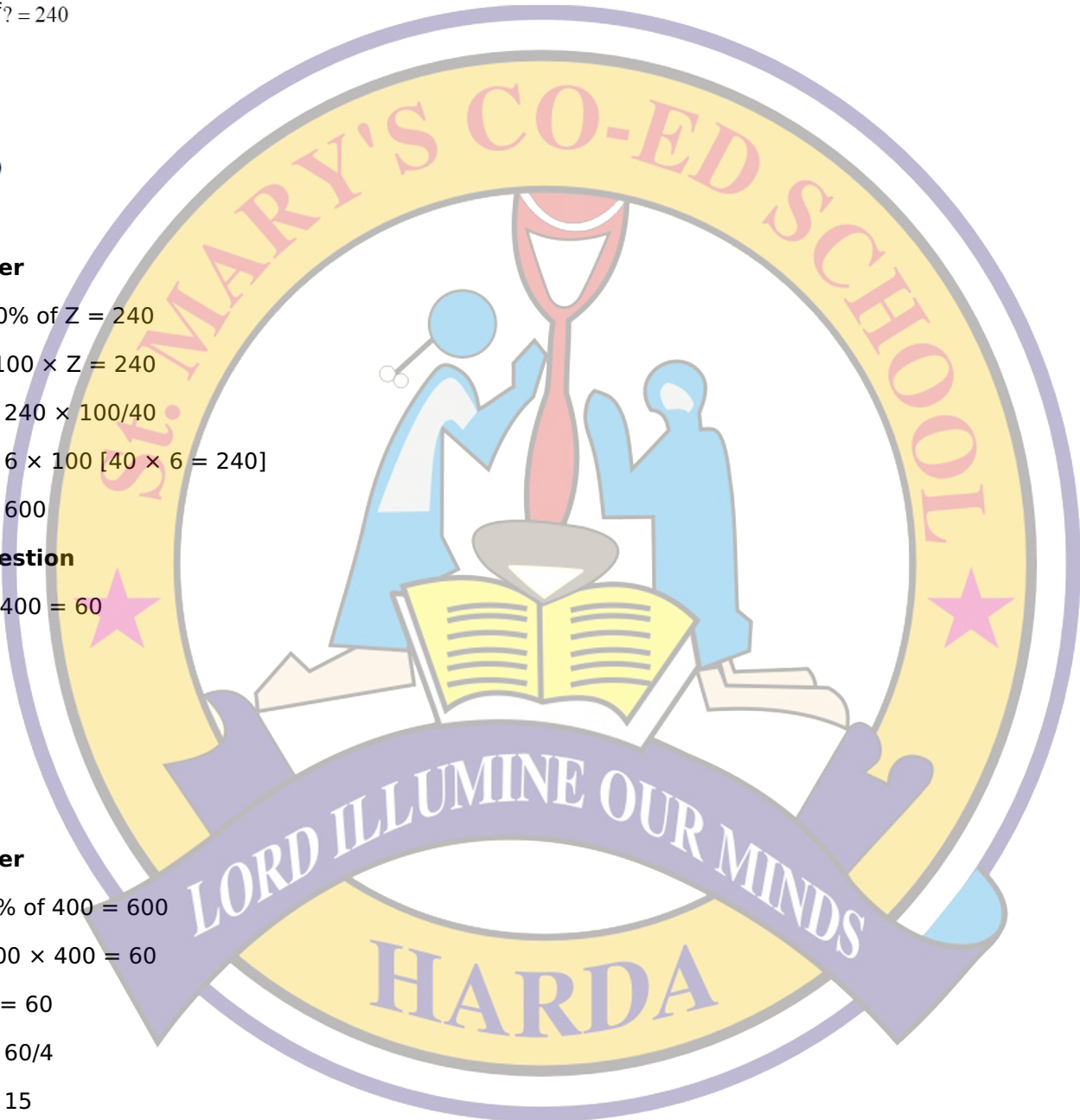
$$(180\% \text{ of } ?) \div 2 = 504$$

A. 400

B. 480

C. 600

D. 560



Let $(180\% \text{ of } Z) \div 2 = 504$

$\therefore (180/100 \times Z) \div 2 = 504$

$\Rightarrow (18/10 \times Z) = 504 \times 2$

$\Rightarrow Z = 504 \times 2 \times 10/18$

$\Rightarrow Z = 504 \times 10/9$

$\Rightarrow Z = 560$

10. Question

20% of Rs. 800 = ?

A. Rs.160

B. Rs.16

C. Rs.1600

D. none of these

Answer

20% of Rs.800 = $20/100 \times 800$

= 20×8

= 160

11. Question

In an examination, Nitin gets 98 marks. This amounts to 56% of the maximum marks.

What are the maximum marks?

A. 75

B. 150

C. 175

D. 225

Answer

Let the maximum marks = Z

$\therefore 56\% \text{ of } Z = 98$

$\Rightarrow Z \times 56/100 = 98$

$\Rightarrow Z = 98 \times 100/56$

$\Rightarrow Z = 7 \times 100/4$

$\Rightarrow Z = 175$

12. Question

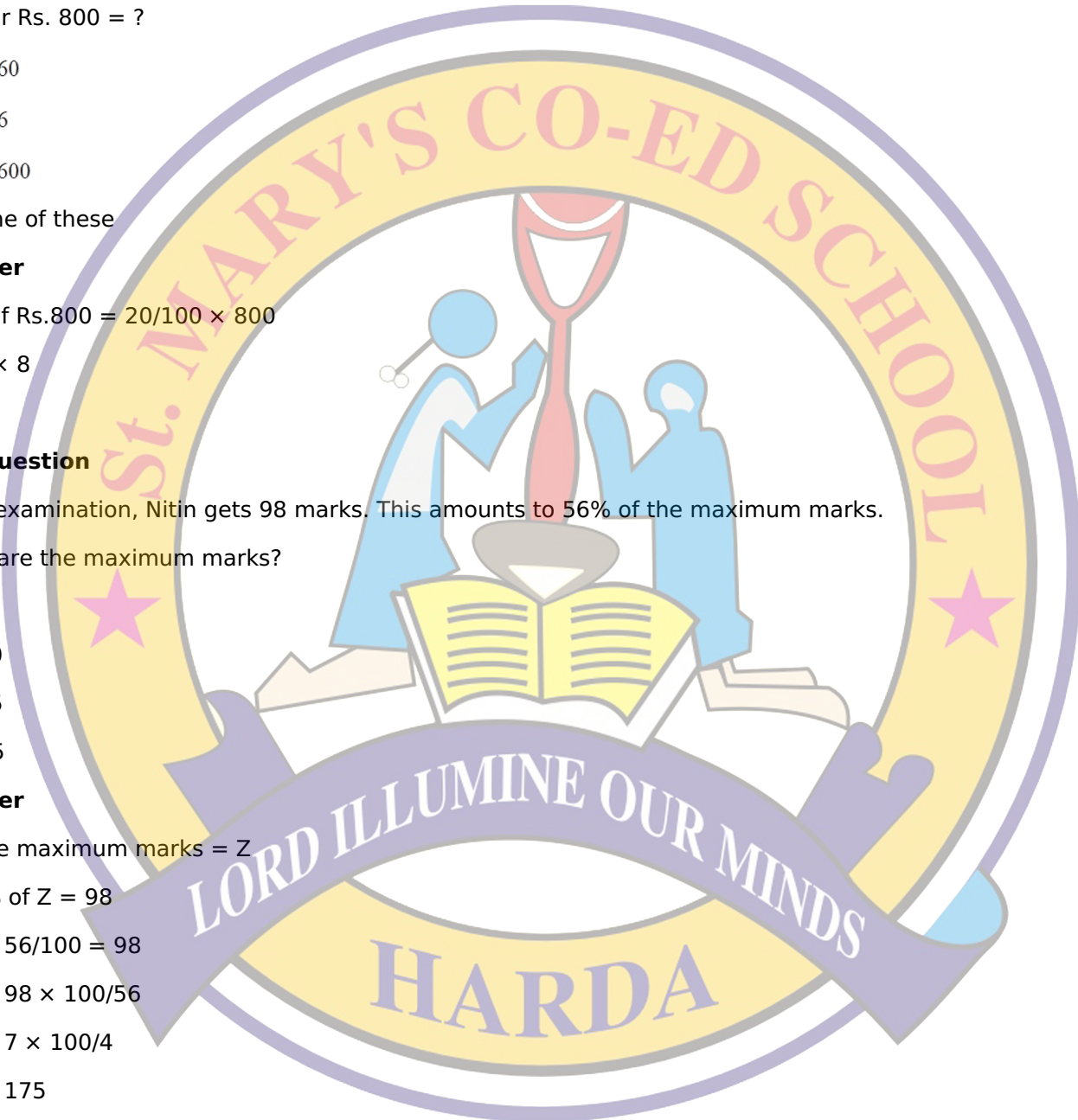
A number is first increased by 10% and then reduced by 10%. The number

A. does not change

B. decrease by 1%

C. increased by 1%

D. none of these



Let the number = Z

10% increased by number = $Z (1 + 10/100)$

$$= 11Z/10$$

Now,

10% decreased by number = $11Z/10 (1 - 10/100)$

$$= (11Z/10) (90/100)$$

$$= 99Z/100$$

$$\therefore \text{difference} = Z - 99Z/100$$

$$= Z/100$$

Percentage of decreases = $Z/100 \times 1/Z \times 100$

$$= 1\%$$

13. Question

A period of 4 hours 30 min is what per cent of a day?

A. $18\frac{3}{4}\%$

B. 20%

C. $16\frac{2}{3}\%$

D. 19%

Answer

$$4 \text{ hours } 30 \text{ min} = (4 \times 60) + 30$$

$$= 240 + 30$$

$$= 270 \text{ min}$$

$$24 \text{ hours} = 24 \times 60$$

$$= 1440 \text{ min}$$

Now,

$$\text{Percentage} = (270/1440 \times 100) \%$$

$$= (3/16 \times 100) \%$$

$$= (3/4 \times 25) \%$$

$$= (75/4) \%$$

$$= 18\frac{3}{4}\%$$

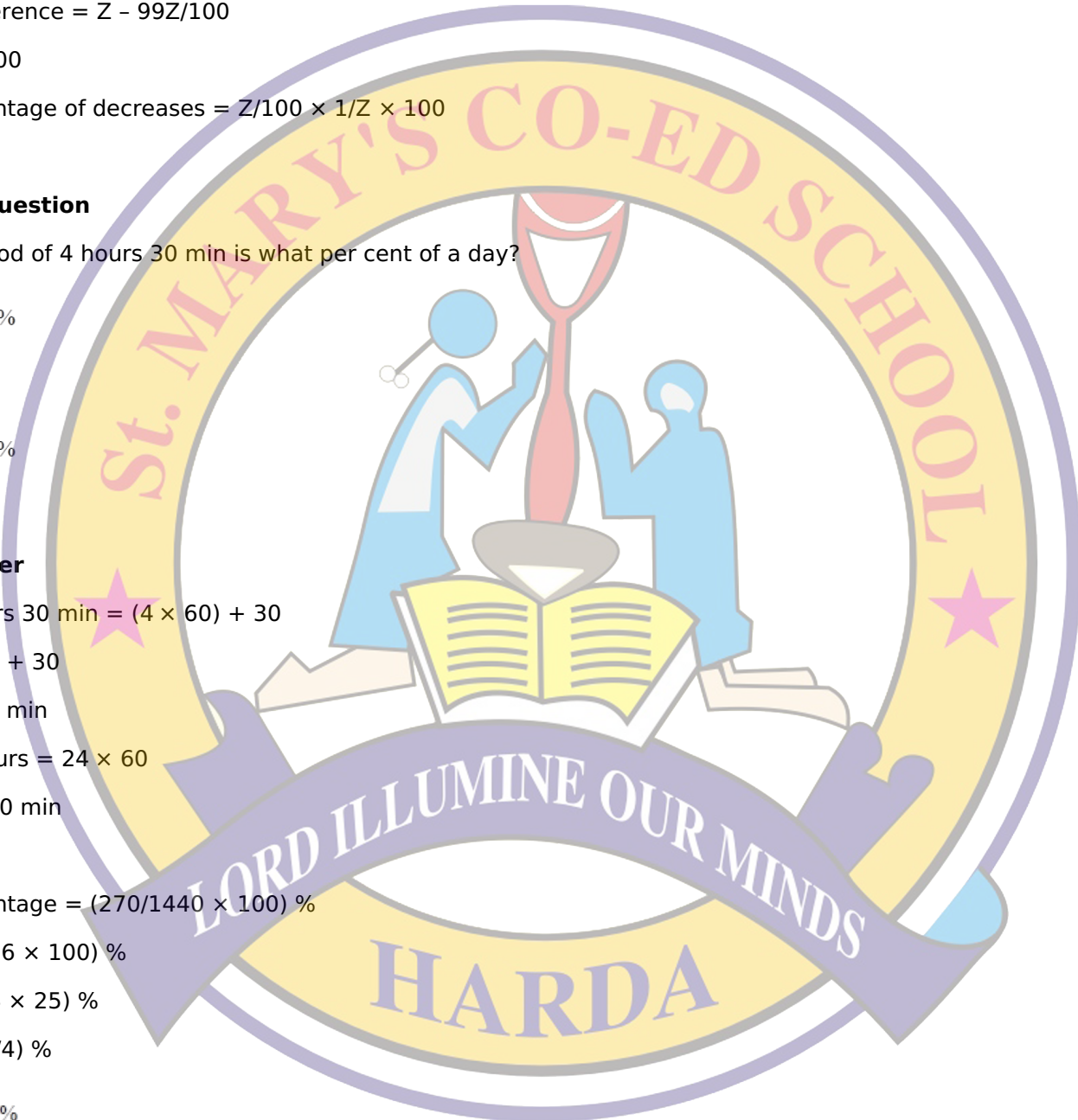
14. Question

In an examination, 65% of the total examines passed. If the number of failures is 420, the total number of examines is

A. 500

B. 1000

C. 1200



D.1625

Answer

Let the total number of examines = Z

Percentage of examines failed = $(100 - 65) \% = 35\%$

$\therefore 35\% \text{ of } Z = 420$

$$\Rightarrow Z \times 35/100 = 420$$

$$\Rightarrow Z = 420 \times 100/35$$

$$\Rightarrow Z = 12 \times 100$$

$$\Rightarrow Z = 1200$$

15. Question

A number exceeds 20% of itself by 40. The number is

A. 50

B. 60

C. 80

D. 320

Answer

Let the number = Z

$\therefore 20\% \text{ of } Z + 40 = Z$

$$\Rightarrow (Z \times 20/100) + 40 = Z$$

$$\Rightarrow Z/5 + 40 = Z$$

$$\Rightarrow Z - Z/5 = 40$$

$$\Rightarrow 4Z/5 = 40$$

$$\Rightarrow Z = 40 \times 5/4$$

$$\Rightarrow Z = 50$$

16. Question

A number decreased by $27\frac{1}{2}\%$ of itself by 87. The number is

A. 58

B. 110

C. 120

D. 135

Answer

Let the number = Z

$$\therefore Z - (27\frac{1}{2}\% \text{ of } Z) = 87$$

$$\Rightarrow Z - (Z \times 55/2 \times 1/100) = 87$$

$$\Rightarrow Z - (Z \times 11/2 \times 1/20) = 87$$



$$\Rightarrow 29Z/40 = 87$$

$$\Rightarrow 29Z/40 = 87$$

$$\Rightarrow Z = 87 \times 40/29$$

$$\Rightarrow Z = 120$$

17. Question

0.05 is what per cent of 20?

A. 25%

B. 2.5%

C. 0.25%

D. 0.025%

Answer

$$\text{Percentage} = (0.05/20 \times 100) \%$$

$$= (0.05 \times 5) \%$$

$$= 0.25\%$$

18. Question

One-third of 1206 is what per cent of 134?

A. 3%

B. 30%

C. 20%

D. 300%

Answer

$$\text{Percentage} = \{(1/3 \times 1206) \times (1/134) \times 100\} \%$$

$$= \{402 \times 1/134 \times 100\} \%$$

$$= \{3 \times 100\} \%$$

$$= 300\%$$

19. Question

x% of y is y% of?

A. x

B. 100x

C. $\frac{x}{100}$

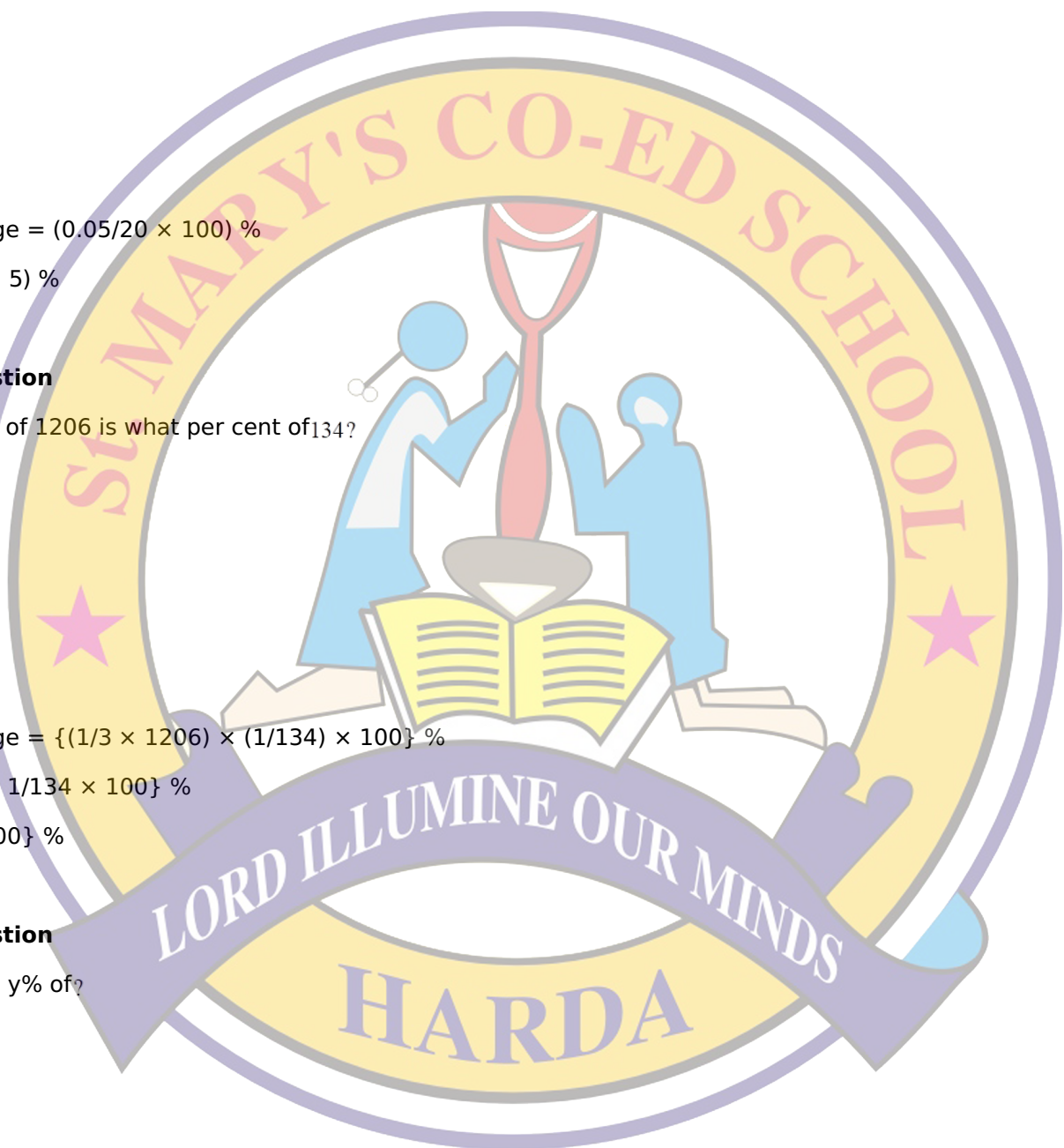
D. $\frac{y}{100}$

Answer

Let x% of y is y% of Z

$$\therefore x/100 \times y = y/100 \times Z$$

$$\Rightarrow x \times y/100 = y/100 \times Z$$



$$\Rightarrow Z = x \cdot y/100 \times 100/y$$

$$\Rightarrow Z = x$$

20. Question

What per cent of $\frac{2}{7}$ is $\frac{1}{35}$?

A. 2.5%

B. 10%

C. 20%

D. 25%

Answer

$$\text{Percentage} = \{(1/35)/(2/7) \times 100\} \%$$

$$= \{1/35 \times 7/2 \times 100\} \%$$

$$= \{1/5 \times 1/2 \times 100\} \%$$

$$= \{1/5 \times 50\} \%$$

$$= 10\%$$

CCE Test Paper-9

1 A. Question

Express:

24% as a fraction;

Answer

24% means, 24 divided by 100.

$$\text{So, } 24\% = 24/100$$

$$= 6/25$$

1 B. Question

Express:

105% as a decimal;

Answer

105% means, 105 divided by 100.

$$\text{So, } 105\% = 105/100$$

$$= 1.05$$

1 C. Question

Express:

4 : 5 as a percentage;

Answer

$$4 : 5 = 4/5$$

$$= (4/5 \times 100) \% \text{ [Because } 100\% = 1]$$

$$80\%$$



1 D. Question

Express:

56% as a ratio.

Answer

56% means, 56 divided by 100.

So, $56\% = 56/100$

$= 14/25$

$= 14:25$

2. Question

If 34% of a number is 85, find the number.

Answer

Let the number = Z

$\therefore 34\% \text{ of } Z = 85$

$\Rightarrow 34/100 \times Z = 85$

$\Rightarrow Z = 85 \times 100/34$

$\Rightarrow Z = 5 \times 100/2$

$\Rightarrow Z = 250$

3. Question

The value of a machine depreciates every year by 10%. If the present value of the machine is Rs.54000, what was its value last year?

Answer

Let the value of the machine last year = Z

$\therefore \text{Present value of the machine} = (100 - 10)\% \text{ of Rs. } Z$

$\Rightarrow 54000 = 90\% \text{ of } Z$

$\Rightarrow 54000 = Z \times 90/100$

$\Rightarrow Z = 54000 \times 100/90$

$\Rightarrow Z = 600 \times 100$

$\Rightarrow Z = 60000$

4. Question

An alloy contains 30% copper, 42% nickel and rest zinc. Find the mass of zinc in 1 kg of alloy.

Answer

Given,

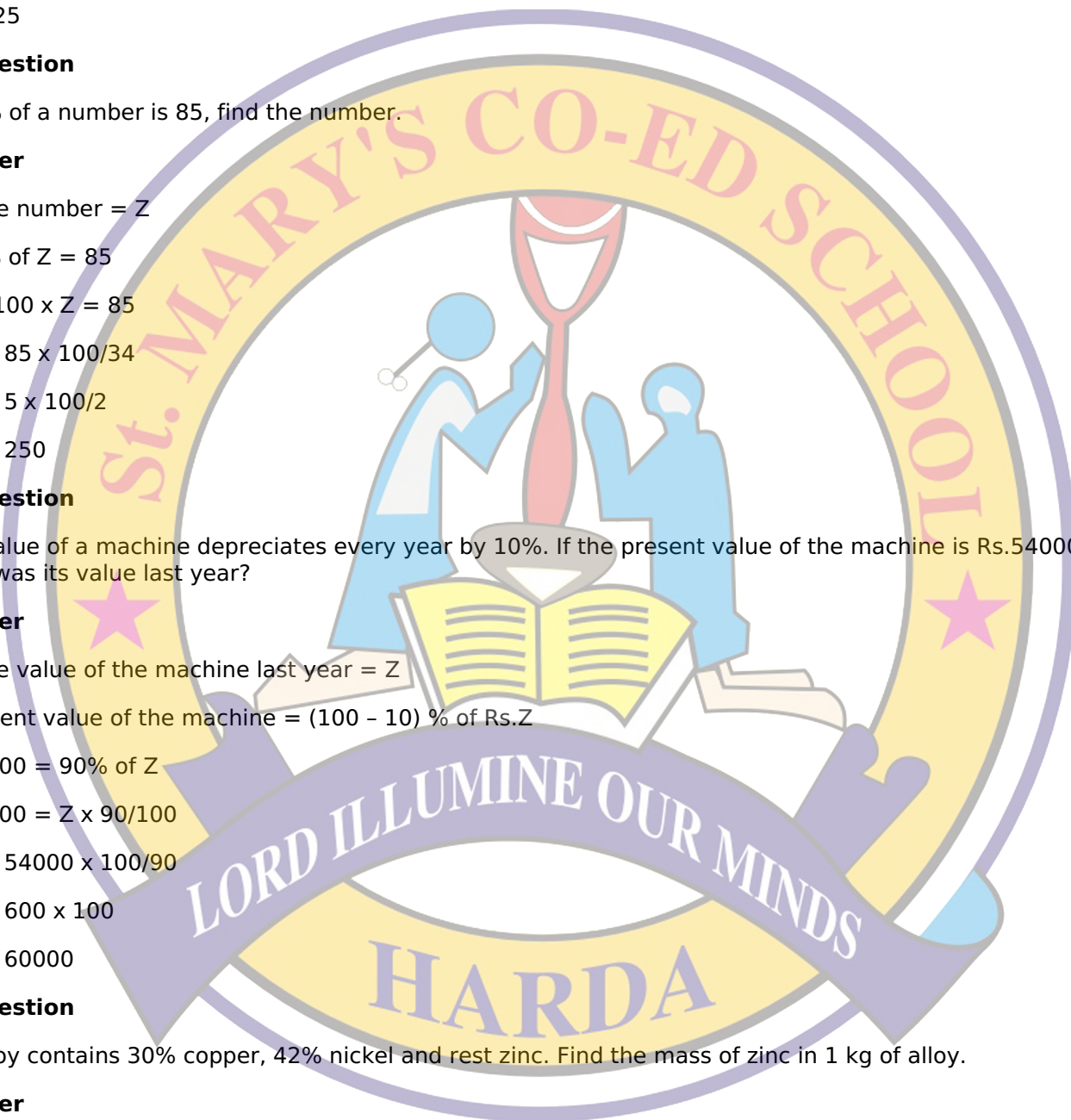
Percentage of copper = 30%

Percentage of nickel = 42%

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

$= 28 \%$

Now,



$$= 0.28 \text{ kg}$$

$$= 0.28 \times 1000 \text{ g}$$

$$= 280 \text{ g}$$

5. Question

In a class, 60% of the total number of students are boys and there are 14 girls. How many students are there in the class?

Answer

Let the total number of students = Z

$$\text{Percentage of girls} = (100 - 60) \% = 40\%$$

Now,

$$\text{Number of girls} = 40\% \text{ of } Z$$

$$\Rightarrow 14 = Z \times 40/100$$

$$\Rightarrow Z = 14 \times 100/40$$

$$\Rightarrow Z = 14 \times 5/2$$

$$\Rightarrow Z = 35$$

6. Question

Which is largest in $8\frac{1}{3}\%$, $\frac{4}{25}$ and 0.15?

Answer

$$= (25/3) \%$$

$$= (25/3 \times 1/100)$$

$$= 8.33/100$$

$$= 0.08 \text{ (i)}$$

$$\frac{4}{25} = 0.16 \text{ (ii)}$$

$$0.15 \text{ (iii)}$$

From equation (i), (ii) and (iii),

$$0.16 > 0.15 > 0.08$$

7. Question

What per cent of $\frac{2}{9}$ is $\frac{1}{45}$?

A. 2.5%

B. 5%

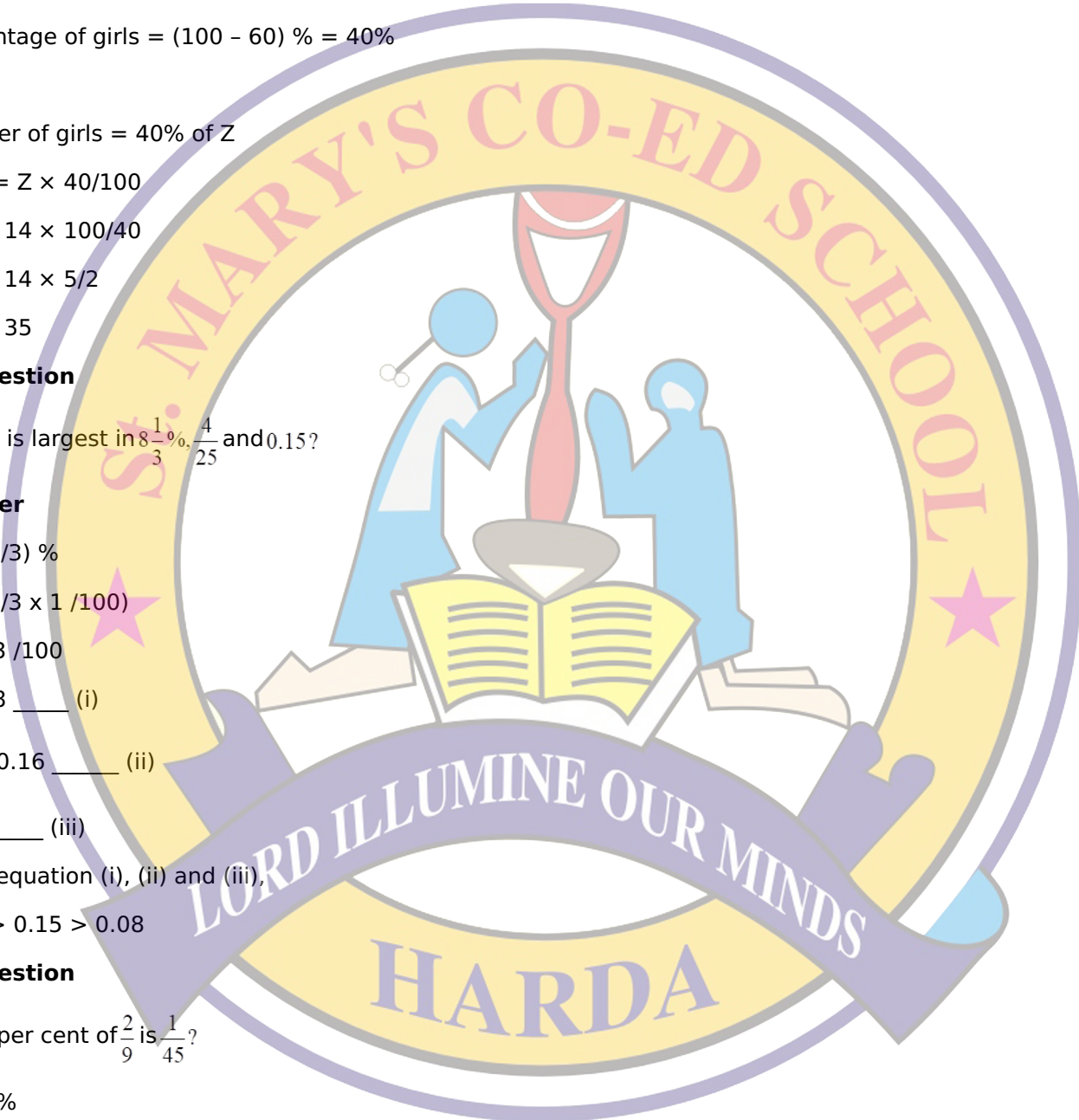
C. 7.5%

D. 10%

Answer

$$\text{Percentage} = \{ (1/45) / (2/9) \times 100 \} \%$$

$$= \{ 1/45 \times 9/2 \times 100 \} \%$$



$$= \{1/5 \times 50\} \%$$

$$= 10\%$$

8. Question

A number decreased by 30% gives 84. The number is

- A. 90
- B. 110
- C. 120
- D. 135

Answer

Let the number = Z

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

$$\Rightarrow Z - (Z \times 30/100) = 84$$

$$\Rightarrow Z - 30 Z/100 = 84$$

$$\Rightarrow 70 Z/100 = 84$$

$$\Rightarrow Z = 84 \times 100/70$$

$$\Rightarrow Z = 12 \times 10$$

$$\Rightarrow Z = 120$$

9. Question

(?)% of 320 is 48?

- A. 25%
- B. 15%
- C. 14%
- D. 9%

Answer

$$\text{Percentage} = (48/320 \times 100) \%$$

$$= (48/32 \times 10) \%$$

$$= (3/2 \times 10) \%$$

$$= 15\%$$

10. Question

What per cent of 45 is 54?

- A. $83\frac{1}{3}\%$
- B. 104%
- C. 108%
- D. 120%

Answer

$$\text{Percentage} = (54/45 \times 100) \%$$



$$= (6 \times 20) \%$$

$$= 120\%$$

11. Question

A number exceeds 25% of itself by 60. The number is

- A. 75
- B. 45
- C. 80
- D. 65

Answer

Let the number = Z

$$\therefore 25\% \text{ of } Z + 60 = Z$$

$$\Rightarrow (Z \times 25/100) + 60 = Z$$

$$\Rightarrow Z/4 + 60 = Z$$

$$\Rightarrow Z - Z/4 = 60$$

$$\Rightarrow 3Z/4 = 60$$

$$\Rightarrow Z = 60 \times 4/3$$

$$\Rightarrow Z = 80$$

12. Question

5% of which number is 12?

- A. 120
- B. 180
- C. 240
- D. 320

Answer

Let the number = Z

$$\therefore 5\% \text{ of } Z = 12$$

$$\Rightarrow Z \times 5/100 = 12$$

$$\Rightarrow Z = 12 \times 100/5$$

$$\Rightarrow Z = 12 \times 20$$

$$\Rightarrow Z = 240$$

13. Question

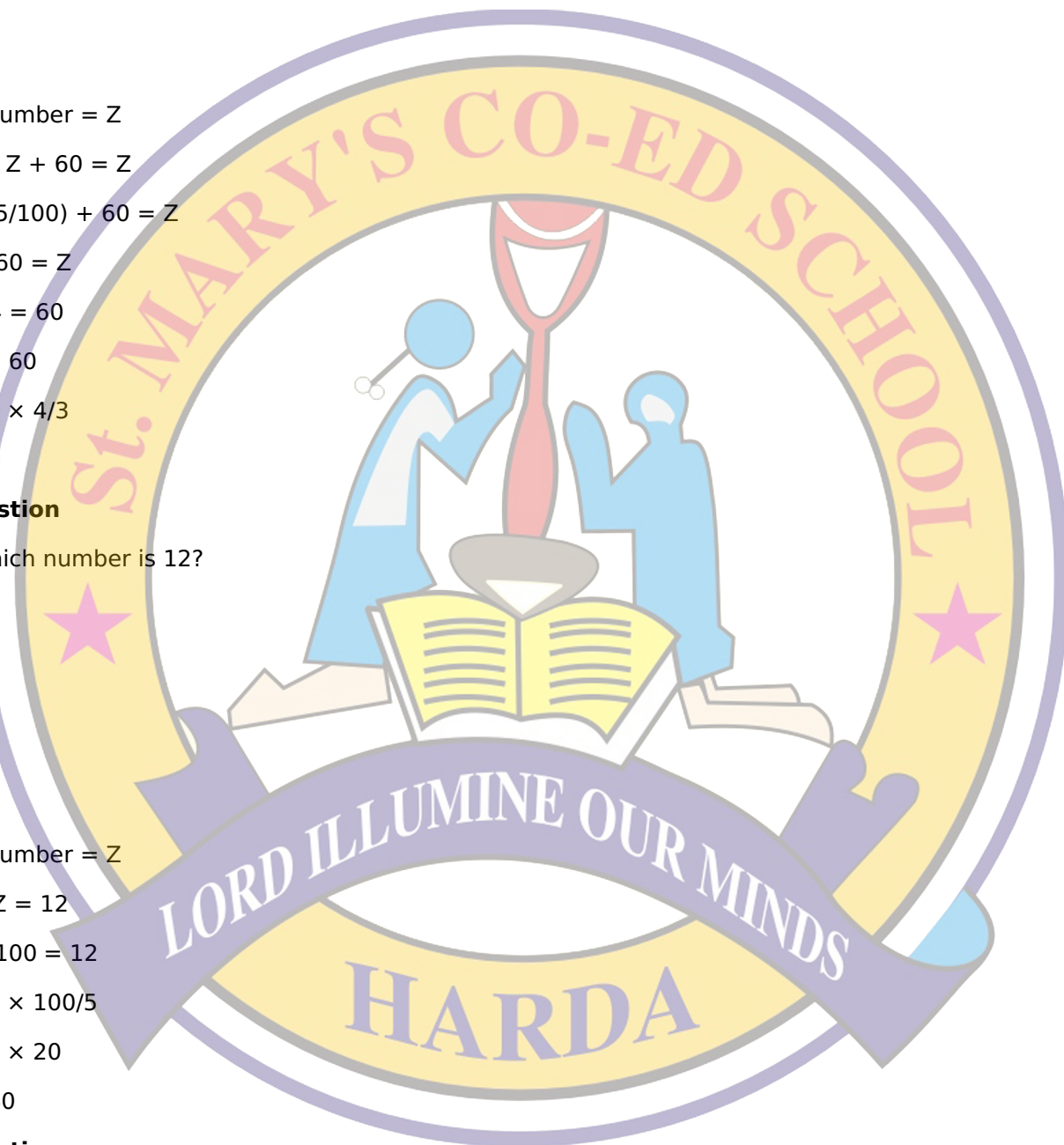
Fill in the blanks.

(i) $7\frac{1}{2}\%$ of Rs.1200 =

(ii) 240 mL is.....% of 3 L.

(iii) If $x\%$ of 35 is 42, then $x = \dots\dots\dots$

(iv) $\frac{12}{\dots\dots\dots} = \dots\dots\dots\%$



(v) $120 = (\dots)\%$ of 80.

Answer

(i) 90

$$7\frac{1}{2}\% \text{ of Rs.1200} = (15/2)\% \text{ of Rs.1200}$$

$$= 15/2 \times 1/100 \times 1200$$

$$= 15/2 \times 12$$

$$= 90$$

$$\therefore \text{Rs.90}$$

(ii) 8

$$240 \text{ mL} = (240/1000) \text{ L}$$

Now,

$$\text{Percentage} = (240/1000 \times 1/3 \times 100)\%$$

$$= (240/10 \times 1/3)\%$$

$$= (80/10)\%$$

$$= 8\%$$

(iii) 120

$$X\% \text{ of } 35 = 42$$

$$\Rightarrow 35 \times X/100 = 42$$

$$\Rightarrow 35X/100 = 42$$

$$\Rightarrow X = 42 \times 100/35$$

$$\Rightarrow X = 6 \times 100/5$$

$$\Rightarrow X = 120$$

(iv) 240

$$12/5 = (12/5 \times 100)\%$$

$$= (12 \times 20)\%$$

$$= 240\%$$

(v) 150

Let the number = Z

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

$$\Rightarrow 120 = 80 \times Z/100$$

$$\Rightarrow Z = 120 \times 100/80$$

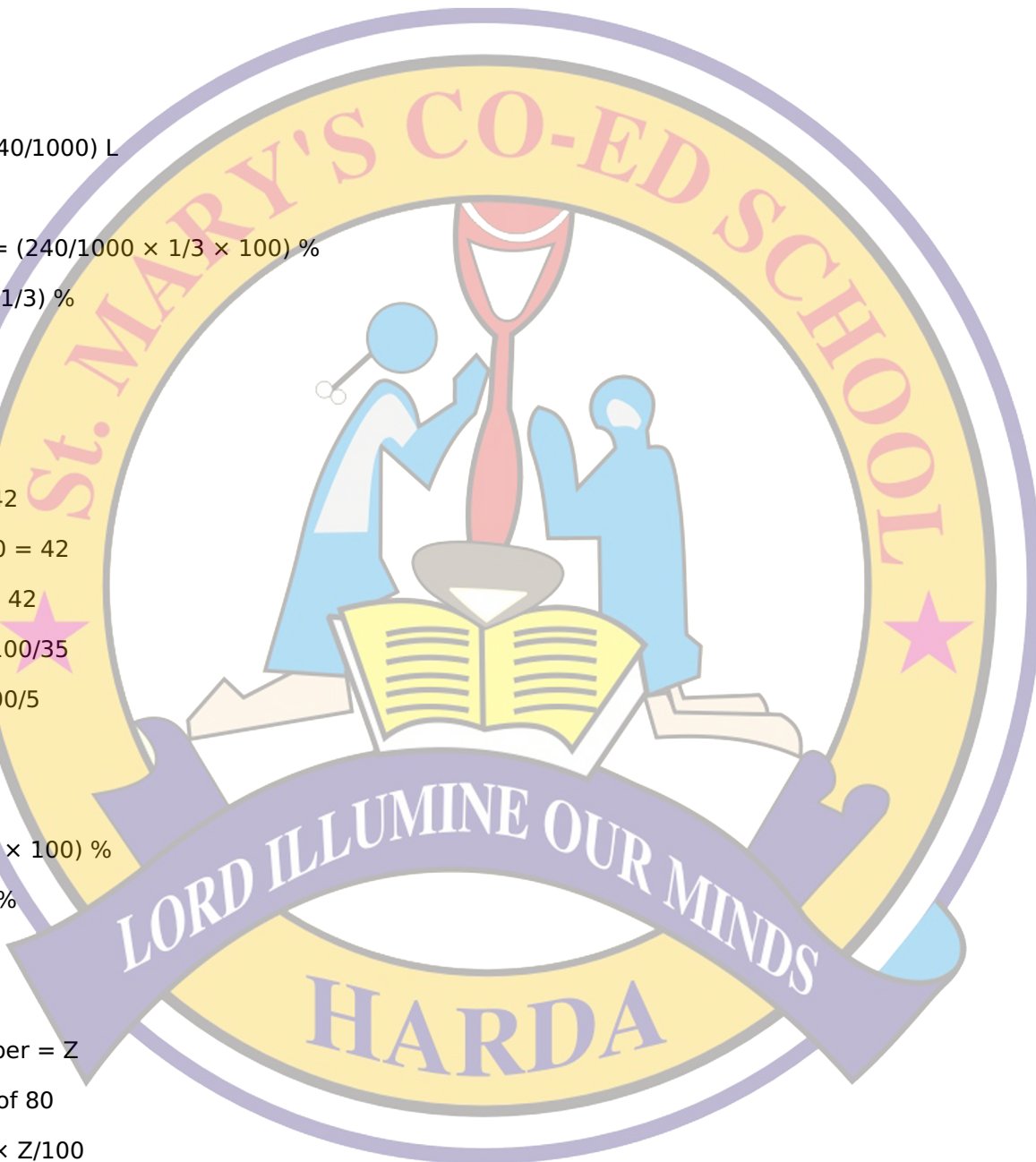
$$\Rightarrow Z = 120 \times 5/4$$

$$\Rightarrow Z = 150$$

14. Question

Write 'T' for true and 'F' for false for each of the following:

(i) 6% of 8 is 48.



(iii) $\frac{3}{5} = 60\%$.

(iv) 6 hours = 25% of a day.

Answer

(i) False

$$6\% \text{ of } 8 = 8 \times \frac{6}{100}$$

$$= \frac{48}{100}$$

$$= 0.48$$

(ii) False

$$6:5 = \frac{6}{5}$$

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

$$= (6 \times 20) \%$$

$$= 120\%$$

(iii) True

$$\frac{3}{5} = \frac{3}{5}$$

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

$$= (3 \times 20) \%$$

$$= 60\%$$

(iv) True

$$1 \text{ day} = 24 \text{ hours}$$

$$6 \text{ hours} = (\frac{6}{24} \times 100) \%$$

$$= (\frac{1}{4} \times 100) \%$$

$$= 25\%$$

