Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Class: 7
Subject: Mathematics
Topic: ASK1507UT03
No. of Questions: 30

Q1. The fraction $\frac{7}{25}$ in the percentage form is _.

(a) 28%
(b) 35%
(c) 49%
(d) 14%

Sol. (a)
We have,
$\frac{7}{25} = \frac{7}{25} \times \frac{100}{100}$

$= \frac{7 \times 4}{100}$

$= \frac{28}{100}$
= 28%
Hence, the required value is 28%

Q2. Identify the following figures:

(a) Square Pyramid
(b) Rectangular Pyramid
(c) Triangle Pyramid
(d) Quadrilateral Pyramid

Sol. (b)

Q3. The ratio of copper and zinc in an alloy is 7 : 8. If the weight of zinc is 9.6 kg, then the weight of copper in the alloy is _
(a) 8.3 kg
(b) 7.4 kg
(c) 9.4 kg
(d) 8.4 kg

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Sol. (d)

Let the weight of the copper be x kg.

Given, the weight of the zinc = 9.6 kg

The ratio of copper to zinc in the alloy = 7: 8

$\Rightarrow 7 : 8 = x : 9.6$

$\Rightarrow \frac{7}{8} = \frac{x}{9.6}$

$\Rightarrow 8 \times x = 7 \times 9.6$

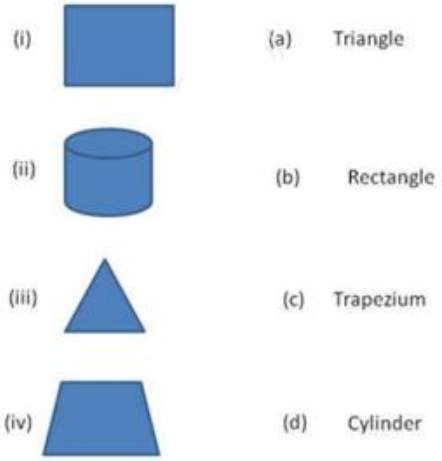
$\Rightarrow x = \frac{7 \times 9.6}{8}$

$\Rightarrow x = 7 \times 1.2$

$\Rightarrow x = 8.4 \text{ kg}$

Hence, the weight of copper in the alloy is 8.4 kg.

Q4. Match these two dimensional figures with their names.



Sol. (i) – (b), (ii) – (d), (iii) – (a), (iv) – (c)

Q5. The value of 0.005 in the percentage form is __

(a) 1/2%

(b) 1/3%

(c) 1/4%

(d) 1/5%

Sol. (a)

We have,

$0.005 = \frac{5}{1000}$

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

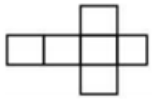
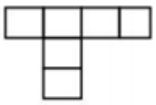
$= \frac{5}{1000} \times \frac{100}{100}$

$= \frac{5}{10} \times \frac{1}{100}$

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

Hence, the value of 0.005 in the percentage form is $\frac{1}{2}\ \%$

Q6. Identify the nets which can be used to make cubes.

a.  b. 

(a) Only (b) makes the cube.
(b) Both (a) and (b) make the cube
(c) Only (a) makes the cube.
(d) None of these

Sol. (c)

Q7. A create contains 400 apples, 6 dozen apples were found spoiled. The percentage of good apples in the crate is __.
(a) 72%
(b) 82%
(c) 62%
(d) 70%

Sol. (b)
Total number of apples = 400
Number of spoiled apples = 6 × 12
= 72
Number of good apples left = 400 – 72
= 328
Percentage of good apples = $\frac{\text{Number of good apples left}}{\text{Total number of apples}} \times 100$
$= \frac{328}{400} \times 100$
Hence, there were 82% of good apples in the crate.

Q8. The simple interest on Rs. 6880 at $7\frac{1}{2}\ \%$ per annum for 8 months is ___
(a) 345
(b) 346

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

(c) 342
(d) 344

Sol. (d)

Given, principal (P) = Rs 6880, rate of interest (R) = $\frac{15}{2}$ %

Time period (T) = 8 months

$= \frac{8}{12} \quad \left(\because 1 \text{ month} = \frac{1}{12} \text{ year}\right)$

$\Rightarrow T = \frac{2}{3}$ years

We know that,

$S.I. = \frac{P \times R \times T}{100}$

$= 6880 \times \frac{15}{2} \times \frac{2}{3} \times \frac{1}{100}$

$= 68.8 \times 5$

$= \text{Rs. } 344$

Hence, the simple intersect is Rs. 344

Q9. A brick measures 24 cm by 12 cm by 10 cm. How many such bricks are needed to construct a wall of length 5m, height 2.88 and thickness 20 cm?

(a) 1500 bricks
(b) 1250 bricks
(c) 1000 bricks
(d) 1020 bricks

Sol. (c)

Q10. If Ravi buys a book for Rs. 300 and sells it at a profit of 10% then the selling price of the book is Rs. ___

(a) 320
(b) 340
(c) 350
(d) 330

Sol. (d)

Given, cost price of the book = Rs. 300

Profit % = 10

Profit = 10% of 300

$= \frac{10}{100} \times 300$

$= 10 \times 3$

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

$= \text{Rs } 30$

Selling price = Cost price + profit

= 300 + 30

= Rs. 330

Hence, the selling price of the book is Rs. 330

Q11. The time in which the simplest interest on Rs 5000 at 5% p.a. will be Rs 750 is ___ years.

(a) 3 years

(b) 4 years

(c) 2 years

(d) 5 years

Sol. (a)

Given, Principal (P) = Rs 5000, rate of interest (R) = 5%, simple interest (S.I) = Rs 750

We know that,

$\text{S. I.} = \frac{\text{P} \times \text{R} \times \text{T}}{100}$

$\Rightarrow 750 = 5000 \times 5\ 0 \times \text{T} \times \frac{1}{100}$

$\Rightarrow \ \text{T} = \frac{750}{50 \times 5}$

$= 3 \text{ years}$

Hence, the required time is 3 years.

Q12. If the cost of an eraser is 80 paise and the cost of a pencil is Rs 2, then the ratio of their costs in the simplest form is __.

(a) 3: 5

(b) 2 :5

(c) 5:2

(d) None of theses

Sol. (b)

Given, cost of an eraser = 80 paise and cost of a pencil = Rs 2

= 2 × 100 paise

= 200 paise

Ratio of costs = (cost of an eraser) : (cost of a pencil)

$= 80 : 200$

= 8 : 20

= 2 : 5

Hence, the required ration is 2 : 5

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Q13. The length and breadth of a black board are 15 cm and 12 cm respectively. The ratio of length of a black board to the breadth of a black board is __.

(a) 4: 5
(b) 3: 5
(c) 5 : 4
(d) None of these

Sol. (c)

Given, length and breadth of a black board are 15 cm and 12 cm respectively. The ratio of length of the black board to the breadth of the black board = $\frac{15}{12} = \frac{5}{4}$

Hence, the required ratio is 5 : 4

Q14. The pairs 25, 36 and 5, 6 are in proportion.

(a) Yes
(b) No
(c) Both
(d) None of these

Sol. (b)

Ratio of 25 to 36 = 25: 36

Ratio of 5 to 6 = 5: 6

But 25: 36 ≠ 5 : 6

Hence, the given ratios do not form a proportion.

Q15. The first three terms of a proportion are 3, 5 and 21; then its fourth term is _.

(a) 25
(b) 26
(c) 30
(d) 35

Sol. (d)

Let the fourth term be x

The given terms are in proportion

$\Rightarrow 3 : 5 :: 21 : x$

$\Rightarrow \frac{3}{5} = \frac{21}{x}$

$\Rightarrow 3 \times x = 5 \times 21$

$\Rightarrow x = \frac{(5 \times 21)}{3}$

$\Rightarrow x = 5 \times 7$

$\Rightarrow x = 35$

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Hence, the fourth term is 35.

Q16. The value of 37.5% in fraction form is _

(a) 8/3
(b) 3/8
(c) 5/8
(d) 8/5

Sol. (b)

We have,

$37.5\% = \frac{37.5}{100}$

$= \frac{375}{10\times100}$

$= \frac{15}{10\times4}$

$= \frac{3}{2\times4}$

$= \frac{3}{8}$

Hence, the required fraction is $\frac{3}{8}$

Q17. John saves 20% of his monthly income. If he saves Rs 5000 per month, then his monthly income is __.

(a) 20000
(b) 15000
(c) 25000
(d) None of these

Sol. (c)

Given, John saves 20% of income = Rs. 5000

$\Rightarrow \frac{20}{100}$ of monthly income $= \text{Rs } 5000$

$\Rightarrow \text{Monthly income } = \frac{5000\times100}{20}$

$= 5000\times5$

$= \text{Rs } 25000$

Hence, John's monthly income is Rs 25000.

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Q18. How many wooden cubical blocks of edge 12 cm can be cut from another cubical block of wood of edge 3m and 60cm?

(a) 27,000 blocks
(b) 26,000 blocks
(c) 25,000 blocks
(d) 21, 000 blocks

Sol. (a)

27,000 blocks (Number of Blocks = Volume of wood/ Volume of blocks to be cut out)

Q19. The population of a town increases 8% annually. If its present population is 142560, then one year ago the population was __.

(a) 133000
(b) 123000
(c) 125000
(d) 132000

Sol. (d)

Let one year ago the population be x

Annual increase = 8%

Present population = $x \times \frac{108}{100}$

$= \frac{27}{25}x$

As per the problem,

$\Rightarrow \frac{27}{25}x = 142560$

$\Rightarrow x = 142560 \times \frac{25}{27}$

$\Rightarrow x = 5280 \times 25$

$\Rightarrow x = 132000$

Hence, one year ago the population of the town is 132000.

Q20. The population of a village is increased from 5000 to 6500. The percentage increase is __.

(a) 25%
(b) 36%
(c) 30%
(d) 40%

Sol. (c)

Given, initial population = 5000

Final population = 6500

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Increase in population = Final population – Initial population
= 6500 – 5000
= 1500
Percent increase = $\frac{1500}{5000} \times 100$
$= 15 \times 2$
= 30 %
Hence, the percentage increases is 30%

Q21. When we cut a corner of a cube as shown in figure. We get the cutout piece as:

(a) Square pyramid
(b) Trapezium prism
(c) Triangular pyramid
(d) A triangle

Sol. (c)

Q22. If a gold chain is sold for Rs 3500 at a profit of 20% on the sale price, then the profit is Rs __.
(a) 700
(b) 600
(c) 500
(d) 200

Sol. (a)
Given, selling price of the gold chain = Rs 3500
Profit % = 20
Profit = 20% of 3500
$= \frac{20}{100} \times 3500$
$= 20 \times 35$
$= \text{Rs } 700$
Hence, the profit is Rs. 700.

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Q23. In class, there are 30 boys and 45 girls. The ratio of number of boys to the number of students is _.

(a) 5 : 2
(b) 2 : 5
(c) 3 : 5
(d) 5 : 3

Sol. (b)

Given, number of boys in the class = 30

Number of girls in the class = 45

Total number of students in the class = 30 + 45

= 75

The ratio of number of boys to the total number of students = $\frac{30}{75} = \frac{2}{5}$

Hence, the ratio of number of boys to the total number of students is 2: 5

Q24. Solve the following riddle:'

I am a number,
Tell my identity!
Take me seven times over
And add a fifty!
To reach a triple century
You still need forty!

(a) 20
(b) 25
(c) 27
(d) 30

Sol. (d)

Let the number be x

$(7x + 50) + 40 = 300$

$7x + 90 = 300$

$7x = 300 - 90$ (Transposing 90 to R.H.S.)

$7x = 210$

Divided both sides by 7,

$\frac{7x}{7} = \frac{210}{7}$

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

$x = 30$

Therefore, the number is 30.

Q25. Irfan says that he has 7 marbles more than five times the marbles permit has. Irfan has 37 marbles. How many marbles does Parmit have?

(a) 5

(b) 4

(c) 6

(d) 7

Sol. (c)

Let parmit's marbles equal x.

5 times the number of marbles Parmit has = 5x

$5x + 7 = 37$

$5x = 37 - 7 = 30$ (Transposing 7 to R.H.S.)

Dividing both sides by 5,

$\frac{5x}{5} = \frac{30}{5}$

$x = 6$

Therefore, the permit has 6 marbles

Q26. Laxmi's father is 49 year old. He is 4 years older than three times Laxmi's age. What is Laxmi's age?

(a) 10 years

(b) 15 years

(c) 20 years

(d) 16 years

Sol. (b)

Let Laxmi's age be x years.

3 × Laxmi's age + 4 = Her father's age

$3x + 4 = 49$

$3x = 49 - 4\ (\text{Transposing } 4 \text{ to R. H. S.})$

$3x = 45$

Dividing both sides by 3,

$\frac{3x}{3} = \frac{45}{3}$

$x = 15$

Therefore, Laxmi's age is 15 years

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Q27. The teacher tells the class that the highest mark obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?

(a) 40
(b) 30
(c) 50
(d) 60

Sol. (a)

Let the lowest score be l.

2 × Lowest marks + 7 = Highest marks

$2l + 7 = 87$

$2l = 87 - 7 \ (\text{Transposing 7 to R.H.S.})$

$2l = 80$

Dividing both sides by 2,

$\frac{2l}{2} = \frac{80}{2}$

$l = 40$

Therefore, the lowest score is 40.

Q28. Sachin scored twice as many runs as Rahul. Together, their runs fell two short of a double century. How many runs did each one score?

(a) 130
(b) 133
(c) 132
(d) None of these

Sol. (c)

Let Rahul's score be x.

Therefore, Sachin's score = 2x

Rahul's score + Sachin's score = 200 – 2

$2x + x = 198$

$3x = 198$

Dividing both sides by 3,

$\frac{3x}{3} = \frac{198}{3}$

$x = 66$

Rahul's score = 66

Sachin 'score = 2 ×66 = 132

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

Q29. Solve the following equations.

$4 = 5\,(p - 2)$

(a) 5/14

(b) 14/5

(c) 4/15

(d) 15/4

Sol. (b)

$4 = 5\,(p - 2)$

Dividing both sides by 5,

$\frac{4}{5} = p - 2$

$\frac{4}{5} + 2 = p$ [Transposing – 2 to L.H.S]

$\frac{4+10}{5} = P$

$\frac{14}{5} = p$

Q30. Solve the following equation

$2y + \frac{5}{2} = \frac{37}{2}$

(a) 6

(b) 3

(c) 5

(d) 8

Sol. (d)

$2y + \frac{5}{2} = \frac{37}{2}$

$2y = \frac{37}{2} - \frac{5}{2} = \frac{32}{2} = 16$ (Transposing $\frac{5}{2}$ to R.H.S)

Dividing both side by 2,

$y = \frac{16}{2} = 8$

askIITians

Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

askIITians