

PRACTICE SET

Part-A Logical, Analytical & Quantitative Abilities

AAO EXAM PAPER -V

Topic

1. Data Tables
2. Linear Graphs
3. Pie Charts
4. Bar Charts
5. Venn diagram

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Data Table

Question 1: Data Interpretation

Table 1: Monthly Sales (in ₹ Thousands)

Product	January	February	March	April
A	80	75	85	90
B	60	65	70	80
C	50	55	60	65

Table 2: Monthly Expenses (in ₹ Thousands)

Expense Type	January	February	March	April
Rent	20	20	20	20
Salaries	40	45	45	50
Utilities	10	12	15	15

Question 1:

What was the total sales revenue for Product A from January to March?

- A) ₹240,000
- B) ₹240,000
- C) ₹250,000
- D) ₹235,000

Answer:

A) ₹240,000

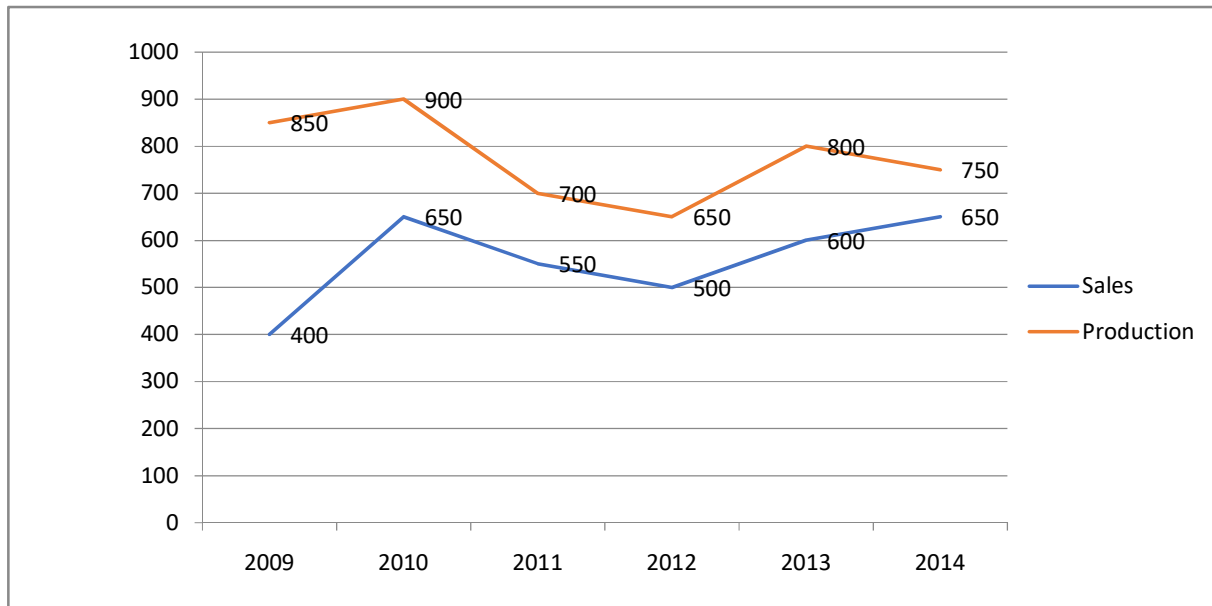
Question 2:

What was the total monthly expense for the company in February?

- A) ₹85,000
- B) ₹82,000

Linear Graph

Main Question 1: Sales and Production data of Company.

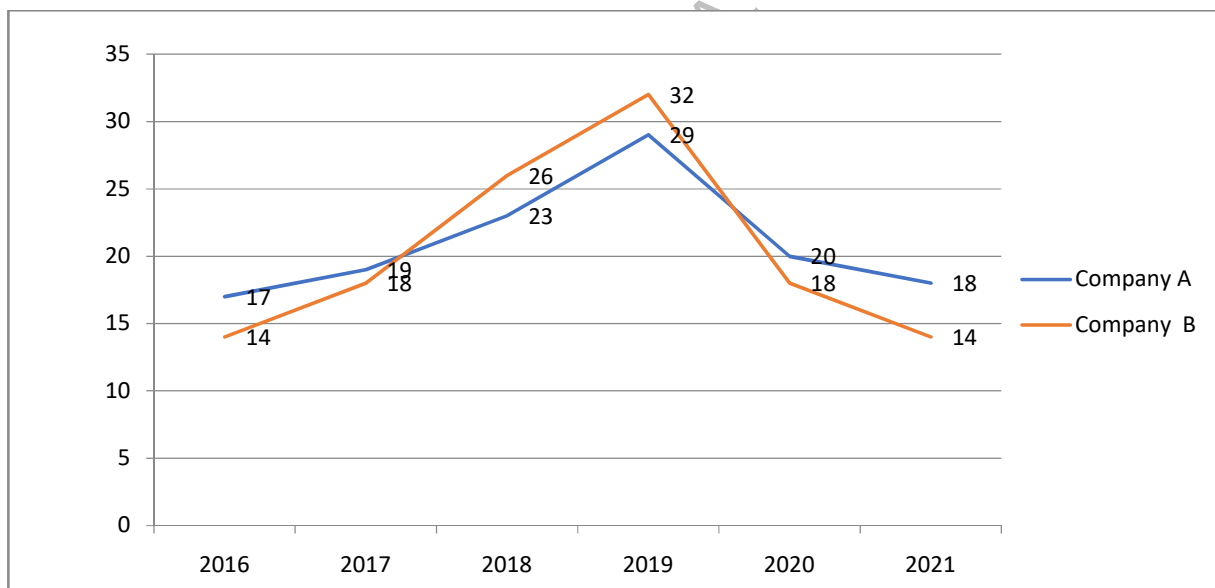


Questions and Answers:

- 1. Calculate the Average Production:** What is the average production over the six years?
 - a) 750
 - b) 775
 - c) 800
 - d) 825
 - **Answer:** c) 800
- 2. Identify the Year with Highest Sales:** In which years did the company achieve the highest sales?
 - a) 2009 and 2010
 - b) 2010 and 2014
 - c) 2013 and 2014
 - d) 2011 and 2013
 - **Answer:** b) 2010 and 2014
- 3. Calculate the Sales Growth:** What was the percentage growth in sales from 2009 to 2010?
 - a) 50%
 - b) 62.5%
 - c) 75%
 - d) 85%

- **Answer:** b) 62.5%
- 4. **Comparing Sales and Production:** In which year was the difference between production and sales the greatest?
 - a) 2009
 - b) 2010
 - c) 2011
 - d) 2012
 - **Answer:** a) 2009
- 5. **Which year had the lowest production?**
 - a) 2009
 - b) 2011
 - c) 2012
 - d) 2014
 - **Answer:** c) 2012

Main Question 2: Car manufactured (in thousands)

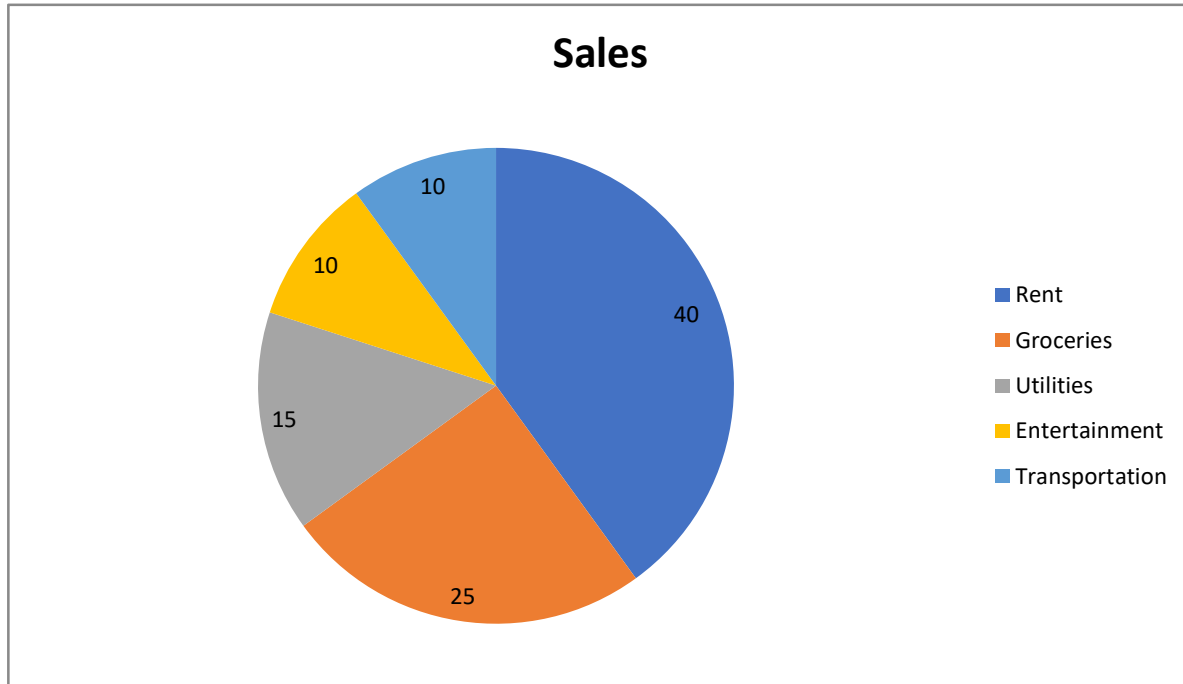


Questions and Answers:

1. **Yearly Comparison:** In which year did Company B manufacture the most cars?
 - a) 2016
 - b) 2017
 - c) 2018

Pie Charts

Main Question 1: Household Budget Distribution

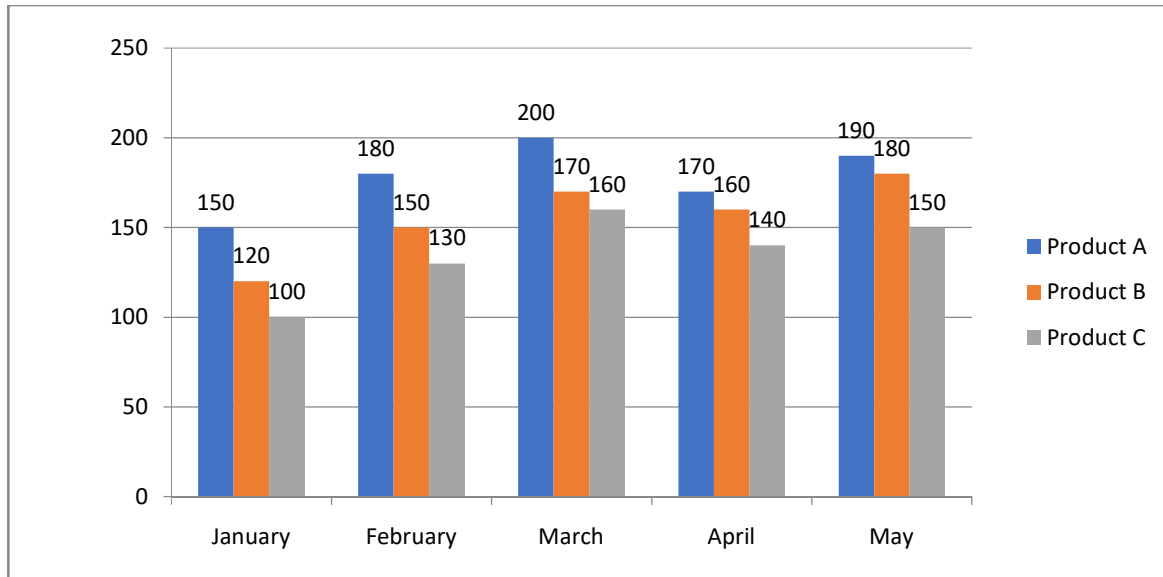


1. **What percentage of the family's monthly budget is spent on rent?**
 - A) 15%
 - B) 25%
 - C) 40%
 - D) 10%
 - **Answer: C) 40%**
2. **Which category takes up the least portion of the budget?**
 - A) Rent
 - B) Groceries
 - C) Entertainment
 - D) Utilities
 - **Answer: C) Entertainment**
3. **What is the combined percentage of money spent on groceries and utilities?**
 - A) 50%
 - B) 45%
 - C) 35%
 - D) 30%

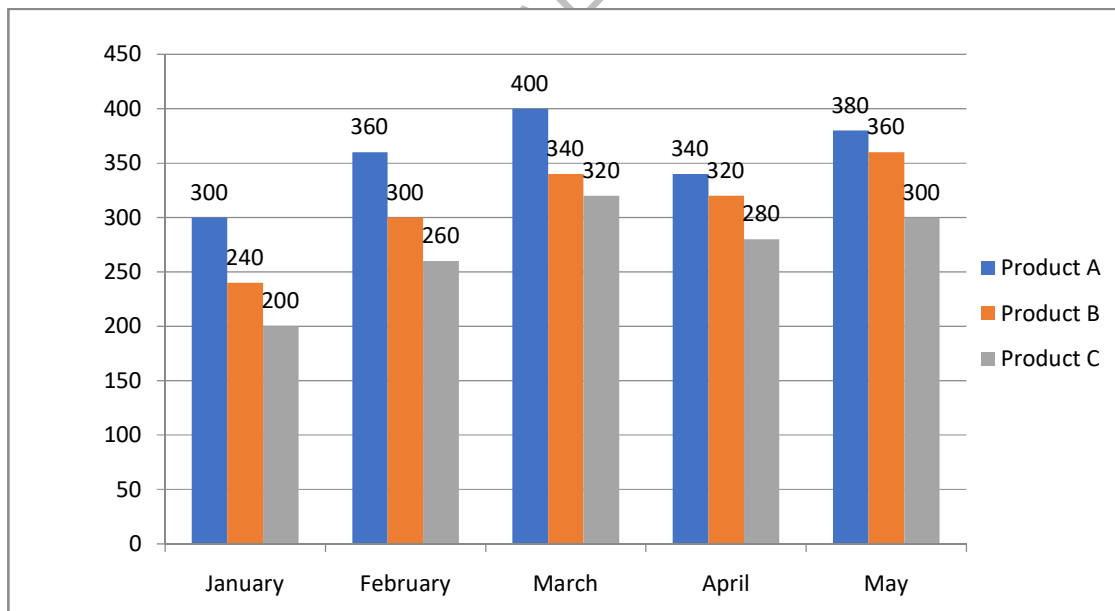
Bar Charts

Question 1: Sales Data and Revenue Data

Data Set 1: Monthly Sales Data



Data Set 2: Monthly Revenue Data (in ₹ thousands)

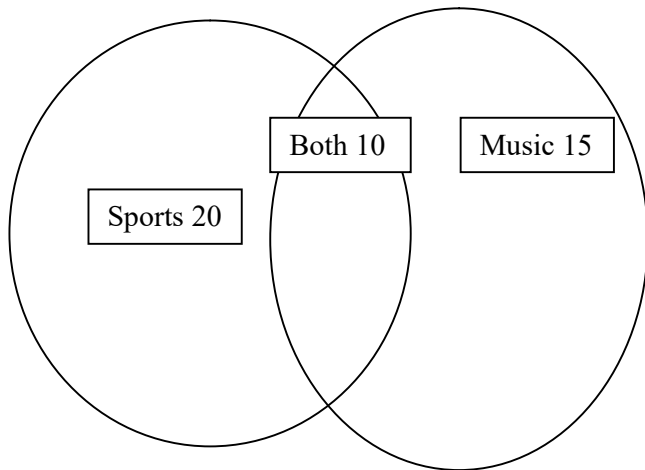


1. How many units of Product A were sold in February?
 - a) 150
 - b) 180
 - c) 200

Venn diagram

Main Question 1: Students Enrolled in Sports and Music

- 20 students are enrolled in sports only.
- 15 students are enrolled in music only.
- 10 students are enrolled in both sports and music.



1. How many students are enrolled in sports classes?
 - a) 20
 - b) 30
 - c) 25
 - d) 35
 - **Answer: b) 30**
2. How many students are enrolled in music classes?
 - a) 15
 - b) 25
 - c) 30
 - d) 35
 - **Answer: b) 25**
3. How many students are enrolled in either sports or music or both?
 - a) 35
 - b) 40
 - c) 45
 - d) 50
 - **Answer: a) 35**
4. How many students are not enrolled in sports classes?
 - a) 15
 - b) 20

PRACTICE SET

Quantitative Ability

AAO EXAM PAPER -V

Topic

1. Number System
2. Decimals & Fractions
3. Simple Equation
4. Ratio-Proportion Variation
5. Percentages
6. Profit & Loss
7. Simple Interest and compound Intrest
8. Average /Weighted Averages
9. Discount
10. Time &Work

Number system

Questions

- What is the smallest prime number?
 - 0
 - 1
 - 2
 - 3
- What is the highest common divisor (HCM) of 18 and 24?
 - 6
 - 12
 - 18
 - 24
- What is the least common multiple (LCM) of 3 and 4?
 - 12
 - 6
 - 9
 - 15
- Which of the following is a perfect square?
 - 15
 - 25
 - 45
 - 55
- Which of the following is an odd number?
 - 14
 - 22
 - 31
 - 48
- Problem:** If $x + y = 8$ and $x - y = 2$, what is the value of x ?
 - 3
 - 4
 - 5
 - 6
- Problem:** What is the sum of the first 10 natural numbers?
 - 55
 - 50
 - 45
 - 40
- Problem:** If a number is divisible by 2, 3, and 5, it is also divisible by:
 - 8
 - 10
 - 15
 - 30
- Problem:** What is the value of 3^4 ?
 - 12
 - 27
 - 64
 - 81
- Problem:** Find the missing number in the sequence: 2, 4, 8, 16, ____, 64.
 - 24
 - 32
 - 48
 - 56
- Problem:** What is the next number in the Fibonacci sequence: 0, 1, 1, 2, 3, 5, 8, ____?
 - 10
 - 12
 - 13
 - 11
- Problem:** If the product of two numbers is 36 and one of the numbers is 4, what is the other number?
 - 8
 - 9
 - 12
 - 6
- Problem:** What is the decimal equivalent of the fraction $\frac{3}{4}$?
 - 0.5
 - 0.6
 - 0.75
 - 0.8
- If $x=3$, what is $x^2 + 2x$?
 - 9
 - 12
 - 15
 - 21
- Problem:** If $3x = 12$, what is the value of x ?
 - 2
 - 3

- c) 4
 - d) 5
16. **Problem:** What is the square root of 49?
- a) 6
 - b) 7
 - c) 8
 - d) 9
17. **Problem:** Which of the following numbers is a multiple of both 2 and 3?
- a) 4
 - b) 6
 - c) 9
 - d) 12
18. Which of the following is a composite number?
- a) 7
 - b) 13
 - c) 21
 - d) 29
19. $\sqrt{12} \times \sqrt{15}$ is equal to
- a) $5\sqrt{6}$
 - b) $6\sqrt{5}$
 - c) $10\sqrt{5}$
 - d) $\sqrt{25}$
20. What is the value of $5 \times 6 - 3$?
- a) 27
 - b) 28
 - c) 29
 - d) 30
21. What is the remainder when 123 is divided by 5?
- a) 1
 - b) 2
 - c) 3
 - d) 4
22. If $7x = 49$, what is the value of x?
- a) 5
 - b) 6
 - c) 7
 - d) 8
23. What is the value of $(5 + 3)^2$?
- a) 49
 - b) 64
 - c) 81

- d) 100
24. If a number is divisible by both 4 and 5, it is also divisible by:
- a) 8
 - b) 10
 - c) 15
 - d) 20
25. What is the value of 7^3 ?
- a) 216
 - b) 343
 - c) 729
 - d) 1000

Answers

1. c) 2
2. a) 6
3. a) 12
4. b) 25
5. c) 31
6. c) 5
7. a) 55
8. d) 30
9. d) 81
10. b) 32
11. c) 13
12. d) 9
13. c) 0.75
14. c) 15
15. c) 4
16. b) 7
17. b) 6
18. c) 21
19. b) $6\sqrt{5}$
20. a) 27
21. c) 3
22. c) 7
23. b) 64
24. d) 20
25. b) 343

Key number types:

1. **Odd Numbers:** Integers not divisible by 2. Example: 1, 3, 5, 7, ...

2. **Even Numbers:** Integers divisible by 2. Example: 0, 2, 4, 6, ...
3. **Prime Numbers:** Natural numbers greater than 1, divisible only by 1 and themselves. Example: 2, 3, 5, 7, ...
4. **Composite Numbers:** Natural numbers greater than 1, divisible by numbers other than 1 and themselves. Example: 4, 6, 8, 9, ...
5. **Natural Numbers:** Positive integers used for counting. Example: 1, 2, 3, ...
6. **Whole Numbers:** Natural numbers plus 0. Example: 0, 1, 2, 3, ...
7. **Integers:** Whole numbers, both positive and negative, including 0. Example: -2, -1, 0, 1, 2, ...
8. **Rational Numbers:** Numbers that can be expressed as a fraction of two integers. Example: $1/2$, -3, 0.75
9. **Irrational Numbers:** Numbers that cannot be expressed as fractions, with non-terminating, non-repeating decimals. Example: π , $\sqrt{2}$
10. **Real Numbers:** All rational and irrational numbers. Example: -2, 0.5, π

Formula

The sum of the first n natural numbers is given by the formula:

$$S_n = \frac{n(n+1)}{2}$$

Decimal & Fraction.

Questions

1. Convert 0.75 to a fraction.
 - a) $\frac{3}{4}$
 - b) $\frac{1}{2}$
 - c) $\frac{2}{3}$
 - d) $\frac{4}{5}$
2. Convert $\frac{1}{5}$ to a decimal.
 - a) 0.5
 - b) 0.2
 - c) 0.25
 - d) 0.75
3. What is 3.5 as a fraction?
 - a) $\frac{7}{2}$
 - b) $\frac{5}{2}$
 - c) $\frac{4}{3}$
 - d) $\frac{6}{5}$
4. Simplify $\frac{8}{24}$
 - a) $\frac{1}{3}$
 - b) $\frac{1}{2}$
 - c) $\frac{2}{3}$
 - d) $\frac{1}{4}$
5. What is 1.25 as a fraction?
 - a) $\frac{5}{4}$
 - b) $\frac{6}{5}$
 - c) $\frac{5}{3}$
 - d) $\frac{4}{3}$
6. **Problem:** Convert 0.875 to a fraction.
 - a) $\frac{7}{8}$
 - b) $\frac{3}{4}$
 - c) $\frac{9}{10}$
 - d) $\frac{5}{6}$
7. **Problem:** What is $\frac{3}{8}$ as a decimal?
 - a) 0.3
 - b) 0.375
 - c) 0.35
 - d) 0.4
8. **Problem:** Simplify $\frac{10}{25}$
 - a) $\frac{4}{5}$
 - b) $\frac{2}{5}$
 - c) $\frac{3}{5}$
 - d) $\frac{1}{5}$
9. **Problem:** Convert 2.75 to a fraction.
 - a) $\frac{11}{4}$
 - b) $\frac{5}{4}$
 - c) $\frac{7}{4}$
 - d) $\frac{9}{4}$
10. **Problem:** What is $\frac{1}{3}$ as a decimal?
 - a) 0.3
 - b) 0.333
 - c) 0.3333
 - d) 0.33333
11. **Problem:** Convert 0.6 to a fraction.
 - a) $\frac{2}{3}$
 - b) $\frac{3}{5}$
 - c) $\frac{3}{4}$
 - d) $\frac{1}{2}$
12. **Problem:** Simplify $\frac{18}{24}$
 - a) $\frac{5}{6}$
 - b) $\frac{3}{5}$
 - c) $\frac{2}{3}$
 - d) $\frac{3}{4}$
13. **Problem:** What is $\frac{5}{6}$ as a decimal?
 - a) 0.85
 - b) 0.75
 - c) 0.833
 - d) 0.666
14. **Problem:** Convert 4.5 to a fraction.
 - a) $\frac{9}{2}$
 - b) $\frac{10}{3}$
 - c) $\frac{8}{3}$
 - d) $\frac{7}{2}$
15. **Problem:** Simplify $\frac{16}{20}$
 - a) $\frac{4}{5}$
 - b) $\frac{3}{5}$
 - c) $\frac{2}{5}$
 - d) $\frac{1}{4}$
16. Convert $\frac{2}{5}$ to a decimal.
 - a) 0.2
 - b) 0.4
 - c) 0.6
 - d) 0.8
17. What is 7.25 as a fraction?
 - a) $\frac{29}{4}$
 - b) $\frac{28}{5}$
 - c) $\frac{30}{4}$
 - d) $\frac{27}{5}$

18. Simplify $15/45$
- a) $1/2$
 - b) $2/3$
 - c) $1/3$
 - d) $3/4$
19. What is $7/10$ as a decimal?
- a) 0.5
 - b) 0.6
 - c) 0.7
 - d) 0.8
20. Convert 1.75 to a fraction.
- a) $5/4$
 - b) $7/4$
 - c) $8/5$
 - d) $9/5$
21. What is 0.45 as a fraction?
- a) $9/20$
 - b) $7/20$
 - c) $9/25$
 - d) $7/25$
22. Simplify $6/9$
- a) $2/5$
 - b) $1/3$
 - c) $2/3$
 - d) $4/5$
23. Convert 3.25 to a fraction.
- a) $13/4$
 - b) $12/5$
 - c) $11/4$
 - d) $10/5$
24. What is $8/9$ as a decimal?
- a) 0.75
 - b) 0.85
 - c) 0.8
 - d) 0.888
25. $20+09+4/100$ is equal to
- a) 29.04
 - b) 29.40
 - c) 2940
 - d) 0.2940
4. a) $1/3$
5. a) $5/4$
6. a) $7/8$
7. b) 0.375
8. a) $2/5$
9. a) $11/4$
10. d) 0.33333
11. b) $3/5$
12. d) $3/4$
13. c) 0.833
14. a) $9/2$
15. a) $4/5$
16. b) 0.4
17. a) $29/4$
18. c) $1/3$
19. c) 0.7
20. b) $7/4$
21. a) $9/20$
22. c) $2/3$
23. a) $13/4$
24. d) 0.888
25. a) 29.04

Answers

1. a) $3/4$
2. b) 0.2
3. a) $7/2$

Simple Equation

Questions

- If $3x+2=11$, what is the value of x ?
 - a) 4
 - b) 3
 - c) 2
 - d) 1
- Solve for y : $2y - 5 = 9$
 - a) 2
 - b) 5
 - c) 7
 - d) 14
- What is the solution to $5x - 4 = 21$?
 - a) 3
 - b) 4
 - c) 5
 - d) 6
- Find the value of z if $7z + 3 = 31$.
 - a) 3
 - b) 4
 - c) 5
 - d) 6
- If $2x/3=10$, what is the value of xx ?
 - a) 10
 - b) 15
 - c) 20
 - d) 25
- Problem:** Solve for x in the equation $4x - 7 = 9$.
 - a) 4
 - b) 3
 - c) 2
 - d) 1
- Problem:** If $5a+2=17$, what is the value of a ?
 - a) 4
 - b) 3
 - c) 2
 - d) 1
- Problem:** Solve for y : $3y - 4 = 11$.
 - a) 2
 - b) 4
- c) 5
 - d) 6
- Problem:** Find the value of k if $2k + 5 = 17$.
 - a) 5
 - b) 6
 - c) 7
 - d) 8
- Problem:** If $6x-3=15$ what is the value of x ?
 - a) 3
 - b) 2
 - c) 4
 - d) 5
- Problem:** Solve for m : $4m + 6 = 18$.
 - a) 1
 - b) 2
 - c) 3
 - d) 4
- Problem:** If $7n - 2 = 19$, what is the value of n ?
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- Problem:** Solve for p : $2p + 3 = 11$.
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- Problem:** If $8q - 5 = 19$, what is the value of q ?
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- Problem:** Solve for r : $9r + 2 = 29$.
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- If $x + 7 = 15$, what is x ?
 - a) 6
 - b) 7
 - c) 8

17. Solve for t: $6t - 4 = 14$.

- a) 3
- b) 2
- c) 4
- d) 5

- a) 8
- b) 10
- c) 12
- d) 14

18. If $5y + 3 = 23$, what is y?

- a) 4
- b) 5
- c) 6
- d) 7

19. Solve for u: $7u - 6 = 22$.

- a) 4
- b) 5
- c) 6
- d) 7

20. If $8v + 5 = 37$, what is v?

- a) 3
- b) 4
- c) 5
- d) 6

21. Solve for w: $9w - 4 = 32$.

- a) 3
- b) 4
- c) 5
- d) 6

22. If $3x + 6 = 21$, what is x?

- a) 4
- b) 5
- c) 6
- d) 7

23. Solve $5f + 2 = 3f + 14$ for f.

- a) 4
- b) 5
- c) 6
- d) 7

24. Find the value of Y

$$5\frac{1}{2} - 3\frac{4}{9} + Y = \frac{7}{3} \times 4\frac{1}{6}$$

- a) 6.67
- b) 9.67
- c) 7.67
- d) 8.67

25. Determine bb in the equation $3b - 4 = 2b + 8$.

Answers

1. b) 3
2. c) 7
3. c) 5
4. b) 4
5. b) 15
6. a) 4
7. b) 3
8. c) 5
9. b) 6
10. a) 3
11. b) 3
12. b) 3
13. b) 4
14. b) 3
15. b) 3
16. b) 8
17. b) 3
18. b) 4
19. a) 4
20. b) 4
21. b) 4
22. b) 5
23. c) 6
24. c) 7.67
25. c) 12

Ratio- Proportion- Varation

Questions

- The ratio of A to B is 3:5. If A is 60, what is B?
 - 80
 - 100
 - 90
 - 75
- If $5x = 6y$, what is the ratio of x to y?
 - 6:5
 - 5:6
 - 1:1
 - 2:3
- A sum of money is divided among A, B, and C in the ratio 2:3:5. If C gets ₹1000, what is the total sum?
 - ₹2000
 - ₹1500
 - ₹2500
 - ₹5000
- If $a:b = 4:7$ and $b:c = 7:9$, then $a:c$ is:
 - 4:9
 - 4:15
 - 7:15
 - 4:21
- The numbers 6, 8, 12 are in:
 - Arithmetic progression
 - Geometric progression
 - Harmonic progression
 - Proportional variation
- The ratio of the ages of two friends is 3:4 and the sum of their ages is 28 years. The age of the younger friend is:
 - 16
 - 12
 - 10
 - 8
- If a car travels 100 km in 2 hours, the speed of the car is:
 - 25 km/hr
 - 50 km/hr
 - 75 km/hr
 - 100 km/hr
- What is the fourth proportional to 2, 4, and 8?
 - 16
 - 12
 - 10
 - 14
- The ratio of boys to girls in a class is 7:9. If there are 63 boys, how many girls are there?
 - 72
 - 81
 - 90
 - 99
- The ratio of 2.5 to 0.5 is:
 - 5:1
 - 1:5
 - 1:10
 - 10:1
- If $9x = 3y$, then $x:y$ is:
 - 3:1
 - 1:3
 - 3:2
 - 2:3
- If the ratio of two quantities is 3:4 and their product is 48, what are the quantities?
 - 4, 12
 - 6, 8
 - 12, 4
 - 9, 5
- The compounded ratio of 2:3 and 5:7 is:
 - 1:2
 - 10:21
 - 10:14
 - 5:21
- If a number is divided into the ratio 2:3, the smaller part is 50. Find the larger part.
 - 75
 - 100
 - 80
 - 90

15. In a mixture of 60 liters, the ratio of milk to water is 2:3. How much milk is there in the mixture?

- a) 24 liters
- b) 30 liters
- c) 36 liters
- d) 40 liters

16. **Problem:** If two numbers are in the ratio 3:7 and the difference between them is 20, what are the numbers?

- a) 35, 20
- b) 20, 15
- c) 15, 35
- d) 35, 15

17. **Problem:** A recipe requires ingredients in the ratio 5:3:2. If you use 200 grams of the first ingredient, how much of the second ingredient do you need?

- a) 120 grams
- b) 100 grams
- c) 150 grams
- d) 80 grams

18. **Problem:** The ratio of boys to girls in a class is 3:5. If there are 30 boys, how many girls are there?

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

19. **Problem:** If a car's fuel efficiency varies inversely with the weight it carries, and it gets 20 km/litre with 100 kg, how much will it get with 200 kg?

- a) 10 km/litre
- b) 15 km/litre
- c) 25 km/litre
- d) 30 km/litre

20. **Problem:** If $\frac{4}{5} = \frac{16}{x}$, what is the value of x?

- a) 10
- b) 15
- c) 20
- d) 25

21. **Problem:** A metal alloy contains copper and tin in the ratio 3:2. If there is 300 grams of tin, how much copper is there?

- a) 450 grams
- b) 500 grams
- c) 600 grams
- d) 700 grams

22. **Problem:** Two numbers are in the ratio 4:5. If their sum is 54, what are the numbers?

- a) 24, 30
- b) 18, 36
- c) 20, 34
- d) 22, 32

23. **Problem:** The ratio of the length to the width of a rectangle is 5:2. If the width is 6 cm, what is the length?

- a) 12 cm
- b) 15 cm
- c) 18 cm
- d) 20 cm

24. **Problem:** If the ratio of apples to oranges in a basket is 7:3 and there are 21 apples, how many oranges are there?

- a) 9
- b) 10
- c) 11
- d) 12

25. **Problem:** A man divides his property among his three sons in the ratio 5:3:2. If the youngest son gets ₹20,000, what is the total value of the property?

- a) ₹100,000
- b) ₹120,000
- c) ₹150,000
- d) ₹200,000

Answers

1. b) 100
2. a) 6:5
3. c) ₹2500
4. a) 4:9
5. d) Proportional variation
6. b) 12
7. b) 50 km/hr
8. b) 81
9. a) 4
10. a) 5:1
11. b) 1:3
12. b) 6, 8
13. b) 10:21
14. a) 75
15. a) 24 liters
16. c) 15, 35
17. a) 120 grams
18. c) 50
19. a) 10 km/litre
20. c) 20
21. a) 450 grams
22. a) 24, 30
23. b) 15 cm
24. a) 09
25. a) ₹100,000

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