



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

VERBAL REASONING ARITHMETICAL REASONING(ENGLISH)

Q1: In a class of 40 students, John is ranked 15th from the top. What is his rank from the bottom?

Long Method: To determine John's rank from the bottom, we need to understand the total number of students and where John stands from the top. If John is 15th from the top, this means there are 14 students above him. Since the total number of students is 40, we subtract the number of students above him and himself from the total: $40 - 15 = 25$. This gives us the number of students below John. Hence, adding 1 to include John himself, we get his rank from the bottom as 26.

Short Method: If John is 15th from the top in a class of 40, his rank from the bottom is simply $40 - 15 + 1 = 26$.

Q2: A train travels at a speed of 60 km/h and covers a certain distance in 1.5 hours. What is the distance traveled by the train?

Long Method: To find the distance traveled by the train, we use the formula for distance, which is the product of speed and time. Given the speed of the train is 60 km/h and the time taken is 1.5 hours, we calculate the distance as follows: Distance = Speed \times Time. Plugging in the values, we get Distance = 60 km/h \times 1.5 h = 90 km.

Short Method: Distance = Speed \times Time = 60 km/h \times 1.5 h = 90 km.

Q3: If $5x = 60$, what is the value of x ?

Long Method: To solve for x , we start with the given equation $5x = 60$. To isolate x , we need to divide both sides of the equation by 5. Performing the division, we get $x = 60 / 5$. Simplifying the division, we find $x = 12$. Thus, the value of x is 12.

Short Method: $x = 60 / 5 = 12$

Q4: A rectangular field has a length of 20 meters and a width of 15 meters. What is the area of the field?

Long Method: To find the area of a rectangular field, we use the formula Area = Length \times Width. Given the length of the field is 20 meters and the width is 15 meters, we substitute these values into the formula: Area = 20 m \times 15 m. Multiplying the two values, we get Area = 300 square meters. Therefore, the area of the field is 300 square meters.

Short Method: Area = Length \times Width = 20 m \times 15 m = 300 m².

Q5: If a car covers 180 kilometers in 3 hours, what is its average speed?

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

Long Method: To determine the average speed of the car, we use the formula $\text{Speed} = \text{Distance} / \text{Time}$. Given the distance covered is 180 kilometers and the time taken is 3 hours, we calculate the speed as follows: $\text{Speed} = 180 \text{ km} / 3 \text{ h}$. Dividing the distance by the time, we get $\text{Speed} = 60 \text{ km/h}$. Thus, the average speed of the car is 60 kilometers per hour.

Short Method: $\text{Speed} = 180 \text{ km} / 3 \text{ h} = 60 \text{ km/h}$.

Q6: A piece of fabric is 24 meters long. If it is cut into pieces each 3 meters long, how many pieces are obtained?

Long Method: To find the number of pieces obtained from cutting the fabric, we divide the total length of the fabric by the length of each piece. The total length is 24 meters, and each piece is 3 meters long. Thus, the number of pieces is calculated as follows: $\text{Number of pieces} = \text{Total length} / \text{Length of each piece} = 24 \text{ m} / 3 \text{ m}$. Performing the division, we get 8 pieces.

Short Method: $\text{Number of pieces} = 24 / 3 = 8$.

Q7: If $2x + 3 = 11$, what is the value of x ?

Long Method: To solve for x , we start with the given equation $2x + 3 = 11$. First, we need to isolate the term with x by subtracting 3 from both sides: $2x + 3 - 3 = 11 - 3$, which simplifies to $2x = 8$. Next, we divide both sides by 2 to solve for x : $2x / 2 = 8 / 2$, giving us $x = 4$.

Short Method: $x = [11 - 3] / 2 = 8 / 2 = 4$.

Q8: A box contains 120 chocolates. If 30% of the chocolates are dark chocolates, how many dark chocolates are there?

Long Method: To find the number of dark chocolates, we need to calculate 30% of 120 chocolates. We use the percentage formula: $\text{Number of dark chocolates} = (\text{Percentage} / 100) \times \text{Total chocolates}$. Substituting the values, we get $\text{Number of dark chocolates} = (30 / 100) \times 120$. Simplifying this, we calculate 30% of 120 by multiplying: $(30 \times 120) / 100 = 36$. Thus, there are 36 dark chocolates.

Short Method: $\text{Dark chocolates} = 0.30 \times 120 = 36$

Q9: If the sum of a number and 9 is 24, what is the number?

Long Method: Let the unknown number be represented by x . According to the problem, $x + 9 = 24$. To find the value of x , we need to isolate it by subtracting 9 from both sides of the equation: $x + 9 - 9 = 24 - 9$, which simplifies to $x = 15$. Hence, the number is 15.

Short Method: $x = 24 - 9 = 15$

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

Q10: A man buys a pen for \$15 and sells it for \$20. What is his profit percentage?

Long Method: To determine the profit percentage, we need to first calculate the profit and then find the percentage. The profit is the selling price minus the cost price: Profit = \$20 - \$15 = \$5. To find the profit percentage, we use the formula: Profit Percentage = (Profit / Cost Price) × 100. Substituting the values, we get Profit Percentage = (\$5 / \$15) × 100. Simplifying the fraction, we have $(1/3) \times 100 = 33.33\%$. Thus, the profit percentage is 33.33%.

Short Method: Profit percentage = $(20-15)/15 \times 100 = 33.33\%$

Q11: If the ratio of the ages of A and B is 3:5 and the sum of their ages is 40 years, what are their ages?

Long Method: Let the ages of A and B be $3x$ and $5x$ respectively. According to the problem, the sum of their ages is 40 years, which gives us the equation $3x + 5x = 40$. Simplifying this, we get $8x = 40$. To find the value of x , we divide both sides by 8: $x = 40 / 8 = 5$. Therefore, the age of A is $3x = 3 \times 5 = 15$ years, and the age of B is $5x = 5 \times 5 = 25$ years.

Short Method: $3x+5x=40 \rightarrow 8x=40 \rightarrow 40/8 \rightarrow 5$

Q12: If $6p = 48$, what is the value of p ?

Long Method: To solve for p , we start with the equation $6p = 48$. To isolate p , we divide both sides of the equation by 6: $p = 48 / 6$. Performing the division, we find $p = 8$. Therefore, the value of p is 8.

Short Method: $p=48/6=8$

Q13: If a triangle has a base of 10 cm and a height of 6 cm, what is its area?

Long Method: To find the area of a triangle, we use the formula Area = $1/2 \times$ Base \times Height. Given the base of the triangle is 10 cm and the height is 6 cm, we substitute these values into the formula: Area = $1/2 \times 10 \text{ cm} \times 6 \text{ cm}$. Multiplying these values, we get Area = 30 square centimeters. Thus, the area of the triangle is 30 cm^2 .

Short Method: Area = $0.5 \times 10 \times 6 = 30 \text{ cm}^2$

Q14: A man spends 75% of his income. If his income is \$4000, how much does he save?

Long Method: To find out how much the man saves, we first need to calculate the amount he spends. Since he spends 75% of his income, we use the percentage formula: Amount spent = (Percentage / 100) \times Total income. Substituting the values, we get Amount spent = $(75 / 100) \times 4000 = 0.75 \times 4000 =$

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

\$3000. To find his savings, we subtract the amount spent from his total income: Savings = Total income - Amount spent = $4000 - 3000 = \$1000$. Thus, he saves \$1000.

Short Method: Savings = $4000 - 0.75 \times 4000 = 4000 - 3000 = 1000$.

Q15: If $7y - 3 = 25$, what is the value of y ?

Long Method: To solve for y , we start with the equation $7y - 3 = 25$. First, we add 3 to both sides to isolate the term with y : $7y - 3 + 3 = 25 + 3$, which simplifies to $7y = 28$. Next, we divide both sides by 7 to solve for y : $7y / 7 = 28 / 7$, giving us $y = 4$.

Short Method: $y = [25 + 3] / 7 \rightarrow y = 4$

Q16: A car travels 240 km using 16 liters of petrol. What is its fuel efficiency in km per liter?

Long Method: To find the fuel efficiency of the car, we use the formula Fuel Efficiency = Distance / Fuel Used. Given the distance traveled is 240 km and the fuel used is 16 liters, we substitute these values into the formula: Fuel Efficiency = $240 \text{ km} / 16 \text{ liters}$. Performing the division, we get Fuel Efficiency = 15 km/liter. Thus, the fuel efficiency of the car is 15 km per liter.

Short Method: Fuel Efficiency = $240 \text{ km} / 16 \text{ liters} = 15 \text{ km/lite}$

Q17: The sum of two consecutive even numbers is 54. What are the numbers?

Long Method: Let the two consecutive even numbers be x and $x + 2$. According to the problem, their sum is 54, giving us the equation $x + (x + 2) = 54$. Simplifying this, we get $2x + 2 = 54$. Subtracting 2 from both sides, we have $2x = 52$. Dividing both sides by 2, we find $x = 26$. Therefore, the two consecutive even numbers are 26 and 28.

Short Method: $2x + 2 = 54 \rightarrow 2x = 54 - 2 \rightarrow x = 52 / 2 \rightarrow 26$

Q18: If the price of a book is reduced by 20%, it costs \$24. What was the original price?

Long Method: Let the original price of the book be P . According to the problem, reducing the price by 20% results in a cost of \$24. This means the price after reduction is 80% of the original price, giving us the equation $0.8P = 24$. To find the original price, we divide both sides by 0.8: $P = 24 / 0.8$. Performing the division, we get $P = 30$. Thus, the original price of the book was \$30.

Short Method: Original Price = $240 / 8 = 30$.

Q19: If $9a = 81$, what is the value of a ?

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

Long Method: To solve for a , we start with the equation $9a = 81$. To isolate a , we divide both sides of the equation by 9: $a = 81 / 9$. Performing the division, we find $a = 9$. Therefore, the value of a is 9.

Short Method: $a=81/9=9$

Q20: A rectangular garden has a length of 25 meters and a width of 10 meters. What is the perimeter of the garden?

Long Method: To find the perimeter of a rectangular garden, we use the formula $\text{Perimeter} = 2(\text{Length} + \text{Width})$. Given the length is 25 meters and the width is 10 meters, we substitute these values into the formula: $\text{Perimeter} = 2(25 \text{ m} + 10 \text{ m})$. Adding the length and width, we get $\text{Perimeter} = 2(35 \text{ m}) = 70$ meters. Thus, the perimeter of the garden is 70 meters.

Short Method: $\text{Perimeter} = 2(25+10) = 2 \times 35 = 70$

Q21: If a shopkeeper sells an item for \$250 and makes a profit of 25%, what is the cost price?

Long Method: Let the cost price be C . According to the problem, the shopkeeper makes a profit of 25%, which means the selling price is 125% of the cost price. We have the equation $1.25C = 250$. To find the cost price, we divide both sides by 1.25: $C = 250 / 1.25$. Performing the division, we get $C = 200$. Thus, the cost price is \$200.

Short Method: $\text{Cost Price} = 250/1.25 = 200$

Q22: If $3m - 4 = 20$, what is the value of m ?

Long Method: To solve for m , we start with the equation $3m - 4 = 20$. First, we add 4 to both sides to isolate the term with m : $3m - 4 + 4 = 20 + 4$, which simplifies to $3m = 24$. Next, we divide both sides by 3 to solve for m : $3m / 3 = 24 / 3$, giving us $m = 8$.

Short Method: $m = [20+4]/3 = 24/3 = 8$

Q23: If a circle has a radius of 7 cm, what is its circumference? (Use $\pi = 22/7$)

Long Method: To find the circumference of a circle, we use the formula $\text{Circumference} = 2\pi r$. Given the radius is 7 cm and using $\pi = 22/7$, we substitute these values into the formula: $\text{Circumference} = 2 \times (22/7) \times 7$. Simplifying, we get $\text{Circumference} = 2 \times 22 = 44$ cm. Thus, the circumference of the circle is 44 cm.

Short Method: $\text{Circumference} = 2 \times [22/7] \times 7 = 44$ cm

Q24: If a man earns \$1500 per month, how much does he earn in a year?

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

Long Method: To find the annual earnings, we multiply the monthly earnings by the number of months in a year. Given the monthly earnings are \$1500, we have Annual earnings = $\$1500 \times 12$. Performing the multiplication, we get Annual earnings = \$18,000. Thus, he earns \$18,000 in a year.

Short Method: Annual earnings = $1500 \times 12 = 18,000$

Q25: If $5(x - 3) = 20$, what is the value of x ?

Long Method: To solve for x , we start with the equation $5(x - 3) = 20$. First, we divide both sides by 5 to isolate the term with x : $(x - 3) = 20 / 5$, which simplifies to $x - 3 = 4$. Next, we add 3 to both sides to solve for x : $x - 3 + 3 = 4 + 3$, giving us $x = 7$.

Short Method: $x = 20/5 + 3 = 4 + 3 = 7$

Q26: A tank holds 500 liters of water. If it is filled at a rate of 25 liters per minute, how long will it take to fill the tank?

Long Method: To find the time required to fill the tank, we use the formula $\text{Time} = \text{Volume} / \text{Rate}$. Given the volume is 500 liters and the rate is 25 liters per minute, we substitute these values into the formula: $\text{Time} = 500 \text{ liters} / 25 \text{ liters per minute}$. Performing the division, we get $\text{Time} = 20$ minutes. Thus, it will take 20 minutes to fill the tank.

Short Method: $\text{Time} = 500 \text{ liters} / 25 \text{ liters/minute} = 20$ minutes.

Q27: If $8k + 4 = 68$, what is the value of k ?

Long Method: To solve for k , we start with the equation $8k + 4 = 68$. First, we subtract 4 from both sides to isolate the term with k : $8k + 4 - 4 = 68 - 4$, which simplifies to $8k = 64$. Next, we divide both sides by 8 to solve for k : $8k / 8 = 64 / 8$, giving us $k = 8$.

Short Method: $k = [68 - 4] / 8$: $k = 64 / 8$: $k = 8$.

Q28: If a rectangular plot has a perimeter of 60 meters and the length is 20 meters, what is the width?

Long Method: To find the width of the rectangular plot, we use the formula for the perimeter of a rectangle: $\text{Perimeter} = 2(\text{Length} + \text{Width})$. Given the perimeter is 60 meters and the length is 20 meters, we substitute these values into the formula: $60 = 2(20 + \text{Width})$. Simplifying, we get $60 = 40 + 2(\text{Width})$. Subtracting 40 from both sides, we have $20 = 2(\text{Width})$. Dividing both sides by 2, we find $\text{Width} = 10$ meters.

Short Method: $\text{Width} = [60 - (2 \times 20)] / 2 = 10$ meters.

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

Q29: If $12x = 144$, what is the value of x ?

Long Method: To solve for x , we start with the equation $12x = 144$. To isolate x , we divide both sides of the equation by 12: $x = 144 / 12$. Performing the division, we get $x = 12$. Therefore, the value of x is 12.

Short Method: $x = 144 / 12 = 12$

Q30: The population of a town increased from 20,000 to 25,000. What is the percentage increase in population?

Long Method: To find the percentage increase, we use the formula:

$$\text{Percentage Increase} = \frac{(\text{NewPopulation} - \text{OldPopulation})}{\text{OldPopulation}} \times 100\%$$

Substituting the values, we get

$$\text{Percentage Increase} = \frac{(25,000 - 20,000)}{20,000} \times 100\%$$

Simplifying, we get

$$\text{Percentage Increase} = \left[\frac{5,000}{20,000} \times 100 \right] \% = 25\% \text{ Thus, the percentage increase in population is } 25\%.$$

Short Method: Percentage Increase = $\left[\frac{5,000}{20,000} \right] \times 100\% = 25\%$.

Q31: If the difference between a number and 5 is 12, what is the number?

Long Method: Let the unknown number be x . According to the problem, the difference between the number and 5 is 12, giving us the equation $x - 5 = 12$. To solve for x , we add 5 to both sides: $x - 5 + 5 = 12 + 5$, which simplifies to $x = 17$. Hence, the number is 17.

Short Method: $x = 12 + 5 = 17$

Q32: A man spends \$80 on groceries, which is 40% of his monthly income. What is his monthly income?

Long Method: Let the monthly income be I . According to the problem, \$80 is 40% of his monthly income, giving us the equation $0.4I = 80$. To find the monthly income, we divide both sides by 0.4: $I = 80 / 0.4$. Performing the division, we get $I = 200$. Thus, his monthly income is \$200.

Short Method: Monthly income = $\frac{80 \times 100}{40} = 200$

Q33: If $7a + 2 = 37$, what is the value of a ?

Long Method: To solve for a , we start with the equation $7a + 2 = 37$. First, we subtract 2 from both sides to isolate the term with a : $7a + 2 - 2 = 37 - 2$, which simplifies to $7a = 35$. Next, we divide both

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

sides by 7 to solve for a: $7a / 7 = 35 / 7$, giving us $a = 5$.

Short Method: $a = [37 - 2] / 7 = 5$

Q34: If a rectangle has a length of 15 cm and a width of 10 cm, what is its area?

Long Method: To find the area of a rectangle, we use the formula $\text{Area} = \text{Length} \times \text{Width}$. Given the length is 15 cm and the width is 10 cm, we substitute these values into the formula: $\text{Area} = 15 \text{ cm} \times 10 \text{ cm}$. Multiplying the two values, we get $\text{Area} = 150$ square centimeters. Thus, the area of the rectangle is 150 cm^2 .

Short Method: $\text{Area} = 15 \times 10 = 150 \text{ cm}^2$

Q35: If the ratio of boys to girls in a class is 3:2 and there are 30 boys, how many girls are there?

Long Method: Let the number of girls be G. According to the problem, the ratio of boys to girls is 3:2, which means $\text{Boys} / \text{Girls} = 3 / 2$. Given there are 30 boys, we can set up the proportion: $30 / G = 3 / 2$. Cross-multiplying, we get $30 \times 2 = 3G$. Dividing both sides by 3, we find $G = 20$. Thus, there are 20 girls.

Short Method: $G = [30 \times 2] / 3 = 20$

Q36: If $5t = 35$, what is the value of t?

Long Method: To solve for t, we start with the equation $5t = 35$. To isolate t, we divide both sides of the equation by 5: $t = 35 / 5$. Performing the division, we get $t = 7$. Therefore, the value of t is 7.

Short Method: $t = 35 / 5 = 7$

Q37: If a triangle has sides of 3 cm, 4 cm, and 5 cm, what is its perimeter?

Long Method: To find the perimeter of a triangle, we add the lengths of all its sides. Given the sides are 3 cm, 4 cm, and 5 cm, we have $\text{Perimeter} = 3 \text{ cm} + 4 \text{ cm} + 5 \text{ cm}$. Adding these values, we get $\text{Perimeter} = 12 \text{ cm}$. Thus, the perimeter of the triangle is 12 cm.

Short Method: $\text{Perimeter} = 3 + 4 + 5 = 12 \text{ cm}$

Q38: A train travels 300 km in 5 hours. What is its average speed?

Long Method: To determine the average speed of the train, we use the formula $\text{Speed} = \text{Distance} / \text{Time}$. Given the distance traveled is 300 km and the time taken is 5 hours, we calculate the speed as follows: $\text{Speed} = 300 \text{ km} / 5 \text{ h}$. Dividing the distance by the time, we get $\text{Speed} = 60 \text{ km/h}$. Thus, the

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

average speed of the train is 60 kilometers per hour.

Short Method: Speed = $300 \text{ km} / 5 \text{ h} = 60 \text{ km/h}$

Q39: If the sum of a number and 8 is 20, what is the number?

Long Method: Let the unknown number be x . According to the problem, the sum of the number and 8 is 20, giving us the equation $x + 8 = 20$. To solve for x , we subtract 8 from both sides: $x + 8 - 8 = 20 - 8$, which simplifies to $x = 12$. Hence, the number is 12.

Short Method: $x = 20 - 8 = 12$

Q40: If a man buys 6 apples for \$18, what is the cost of one apple?

Long Method: To find the cost of one apple, we divide the total cost by the number of apples. Given the total cost is \$18 and the number of apples is 6, we have Cost per apple = Total cost / Number of apples = $\$18 / 6$. Performing the division, we get Cost per apple = \$3. Thus, the cost of one apple is \$3.

Short Method: Cost per apple = $18 / 6 = 3$

Q41: If the sum of three consecutive odd numbers is 69, what is the smallest of these numbers?

Long Method: Let x be the smallest odd number. The next two consecutive odd numbers would be $x+2$ and $x+4$. According to the problem, $x+(x+2)+(x+4)=69$. Simplifying, we get $3x+6=69$. Subtracting 6 from both sides, we have $3x=63$. Dividing by 3, we find $x=21$. Therefore, the smallest odd number is 21.

Short Method: Let the smallest odd number be x . $3x+6=69 \rightarrow 3x=69-6$ hence $x=21$

Q42: A rope of 60 meters is cut into two pieces. If one piece is three times the length of the other, what are the lengths of the two pieces?

Long Method: Let x be the length of the shorter piece. Then the longer piece is $3x$. According to the problem, $x+3x=60$. Simplifying, we get $4x=60$. Dividing by 4, we find $x=15$. Therefore, the lengths of the two pieces are 15 meters and 45 meters.

Short Method: Let the length of the shorter piece be x . Then the longer piece is $3x$. $x+3x=60 \rightarrow 4x=60$, so $x=15$, and the lengths are 15 meters and 45 meters.

Q43: If $4y-5=19$, what is the value of y ?

Long Method: To solve for y , start with $4y-5=19$. Add 5 to both sides to isolate the term with y : $4y=19+5$, which simplifies to $4y=24$. Then, divide both sides by 4:

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)



Geh Press

Technical & Scientific Book Publishers
USA Japan Singapore Germany India Australia

Logical Reasoning Tricks and Techniques for

Exam: IAS, PCS, UPSC, Bank PO, NDA, RRB, SSC, Indian Air Force, Etc.

$y=24/4$, giving $y=6$.

Short Method: $y=(19+5)/4=6$.

Q44: A ladder is placed against a wall. The ladder is 5 meters long and reaches a point 4 meters above the ground. How far is the base of the ladder from the wall?

Long Method: Using the Pythagorean theorem, the length of the ladder is the hypotenuse of a right triangle, and the distances from the wall and the ground are the other two sides. Thus, $x^2+4^2=5^2$. Solving for x , we get $x=3$ meters.

Short Method: Using the Pythagorean theorem, $x^2+4^2=5^2$: hence $x=3$ meters.

Q45: A rectangular field has a length of 30 meters and a diagonal of 40 meters. What is the width of the field?

Long Method: Using the Pythagorean theorem, the length, width, and diagonal form a right triangle. So, $30^2+w^2=40^2$. Solving for w , we get $w^2=40^2-30^2=1600-900=700$ meters.

Short Method: Using the Pythagorean theorem, $w^2=40^2-30^2=700$ meters.

Q46: If the area of a square is 64 square centimeters, what is the length of each side?

Long Method: For a square, the area is the square of the length of a side. So, $side^2=64$. Thus, $side=8$ centimeters.

Short Method: $side^2=64$: $side=8$ cm

Copyright By: Geh Press: Technical and Scientific Publication House in USA, India.

gehpress.com, E-mail: gehpress@gmail.com, Run By: Prof. (Dr.) Reena Singh, Post Doc (Japan)