**[Percentage](http://www.indiabix.com/aptitude/percentage/)**

General Questions

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| 1. | A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets? |
| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 45% | [**B.**](javascript:%20void%200;) | |  |  |  | | --- | --- | --- | | 45 | 5 | % | | 11 | | | [**C.**](javascript:%20void%200;) | |  |  |  | | --- | --- | --- | | 54 | 6 | % | | 11 | | [**D.**](javascript:%20void%200;) | 55% |   **Answer & Explanation**  **Answer:** Option **B**  **Explanation:**  Number of runs made by running = 110 - (3 x 4 + 8 x 6)  = 110 - (60)  = 50.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required percentage = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 50 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 45 | 5 | % | | 110 | 11 | |

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| 2. | Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are: |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 39, 30 | [**B.**](javascript:%20void%200;) | 41, 32 | | [**C.**](javascript:%20void%200;) | 42, 33 | [**D.**](javascript:%20void%200;) | 43, 34 |   **Answer & Explanation**  **Answer:** Option **C**  **Explanation:**  Let their marks be (*x* + 9) and *x*.   |  |  |  | | --- | --- | --- | | Then, *x* + 9 = | 56 | (*x* + 9 + *x*) | | 100 |   http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 25(*x* + 9) = 14(2*x* + 9)  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif 3*x* = 99  http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = 33  So, their marks are 42 and 33. |

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| 3. | A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had: |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 588 apples | [**B.**](javascript:%20void%200;) | 600 apples | | [**C.**](javascript:%20void%200;) | 672 apples | [**D.**](javascript:%20void%200;) | 700 apples |   **Answer & Explanation**  **Answer:** Option **D**  **Explanation:**  Suppose originally he had *x* apples.  Then, (100 - 40)% of *x* = 420.   |  |  |  | | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 60 | x *x* = 420 | | 100 |  |  |  |  |  | | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 420 x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif  = 700. | | 60 | |

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| 4. | What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 1 | [**B.**](javascript:%20void%200;) | 14 | | [**C.**](javascript:%20void%200;) | 20 | [**D.**](javascript:%20void%200;) | 21 |   **Answer & Explanation**  **Answer:** Option **C**  **Explanation:**  Clearly, the numbers which have 1 or 9 in the unit's digit, have squares that end in the digit 1. Such numbers from 1 to 70 are 1, 9, 11, 19, 21, 29, 31, 39, 41, 49, 51, 59, 61, 69.  Number of such number =14   |  |  |  |  |  | | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required percentage = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 14 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 20%. | | 70 | |

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| 5. | If A = *x*% of *y* and B = *y*% of *x*, then which of the following is true? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | A is smaller than B. | [**B.**](javascript:%20void%200;) | A is greater than B | | [**C.**](javascript:%20void%200;) | Relationship between A and B cannot be determined. | [**D.**](javascript:%20void%200;) | If *x* is smaller than *y*, then A is greater than B. | | [**E.**](javascript:%20void%200;) | None of these |  |  |   **Answer & Explanation**  **Answer:** Option **E**  **Explanation:**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *x*% of *y* = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *x* | x *y* | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *y* | x *x* | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = *y*% of *x* | | 100 | 100 |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif A = B. |
| 6. | If 20% of *a* = *b*, then *b*% of 20 is the same as: |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 4% of *a* | [**B.**](javascript:%20void%200;) | 5% of *a* | | [**C.**](javascript:%20void%200;) | 20% of *a* | [**D.**](javascript:%20void%200;) | None of these |   **Answer & Explanation**  **Answer:** Option **A**  **Explanation:**   |  |  |  | | --- | --- | --- | | 20% of *a* = *b*   http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 20 | *a* = *b*. | | 100 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif *b*% of 20 = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | *b* | x 20 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 20 | *a* x | 1 | x 20 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = | 4 | *a* = 4% of *a*. | | 100 | 100 | 100 | 100 | |

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| 7. | In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is http://www.indiabix.com/_files/images/aptitude/1-div-2by3.gif of the number of students of 8 years of age which is 48. What is the total number of students in the school? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 72 | [**B.**](javascript:%20void%200;) | 80 | | [**C.**](javascript:%20void%200;) | 120 | [**D.**](javascript:%20void%200;) | 150 | | [**E.**](javascript:%20void%200;) | 100 |  |  |   **Answer & Explanation**  **Answer:** Option **E**  **Explanation:**  Let the number of students be *x*. Then,  Number of students above 8 years of age = (100 - 20)% of *x* = 80% of *x*.   |  |  |  | | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif 80% of *x* = 48 + | 2 | of 48 | | 3 |  |  |  |  | | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 80 | *x* = 80 | | 100 |   http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = 100. |

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| 8. | Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B. |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 2 : 3 | [**B.**](javascript:%20void%200;) | 1 : 1 | | [**C.**](javascript:%20void%200;) | 3 : 4 | [**D.**](javascript:%20void%200;) | 4 : 3 |   **Answer & Explanation**  **Answer:** Option **D**  **Explanation:**   |  |  |  | | --- | --- | --- | | 5% of A + 4% of B = | 2 | (6% of A + 8% of B) | | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 5 | A + | 4 | B | = | 2 | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 6 | A + | 8 | B | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | | 100 | 100 | 3 | 100 | 100 |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 1 | A + | 1 | B | = | 1 | A + | 4 | B | | 20 | 25 | 25 | 75 |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 1 | - | 1 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif A = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 4 | - | 1 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif B | | 20 | 25 | 75 | 25 |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 1 | A = | 1 | B | | 100 | 75 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | A | = | 100 | = | 4 | . | | B | 75 | 3 |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required ratio = 4 : 3 |

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| 9. | |  |  |  |  |  | | --- | --- | --- | --- | --- | | A student multiplied a number by | 3 | instead of | 5 | . | | 5 | 3 |   What is the percentage error in the calculation? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 34% | [**B.**](javascript:%20void%200;) | 44% | | [**C.**](javascript:%20void%200;) | 54% | [**D.**](javascript:%20void%200;) | 64% |   **Answer & Explanation**  **Answer:** Option **D**  **Explanation:**  Let the number be *x*.   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Then, error = | 5 | *x* - | 3 | *x* = | 16 | *x*. | | 3 | 5 | 15 |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Error% = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 16*x* | x | 3 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 64%. | | 15 | 5*x* | |

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| 10. | In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was: |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 2700 | [**B.**](javascript:%20void%200;) | 2900 | | [**C.**](javascript:%20void%200;) | 3000 | [**D.**](javascript:%20void%200;) | 3100 |   **Answer & Explanation**  **Answer:** Option **A**  **Explanation:**  Number of valid votes = 80% of 7500 = 6000.  http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Valid votes polled by other candidate = 45% of 6000   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 45 | x 6000 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = 2700. | | 100 | |
| 11. | Three candidates contested an election and received 1136, 7636 and 11628 votes respectively. What percentage of the total votes did the winning candidate get? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 57% | [**B.**](javascript:%20void%200;) | 60% | | [**C.**](javascript:%20void%200;) | 65% | [**D.**](javascript:%20void%200;) | 90% |   **Answer & Explanation**  **Answer:** Option **A**  **Explanation:**  Total number of votes polled = (1136 + 7636 + 11628) = 20400.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required percentage = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 11628 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 57%. | | 20400 | |

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| 12. | Two tailors X and Y are paid a total of Rs. 550 per week by their employer. If X is paid 120 percent of the sum paid to Y, how much is Y paid per week? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | Rs. 200 | [**B.**](javascript:%20void%200;) | Rs. 250 | | [**C.**](javascript:%20void%200;) | Rs. 300 | [**D.**](javascript:%20void%200;) | None of these |   **Answer & Explanation**  **Answer:** Option **B**  **Explanation:**  Let the sum paid to Y per week be Rs. *z*.  Then, *z* + 120% of *z* = 550.   |  |  |  | | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *z* + | 120 | *z* = 550 | | 100 |  |  |  |  | | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif | 11 | *z* = 550 | | 5 |  |  |  |  |  | | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *z* = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 550 x 5 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif  = 250. | | 11 | |

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| 13. | Gauri went to the stationers and bought things worth Rs. 25, out of which 30 paise went on sales tax on taxable purchases. If the tax rate was 6%, then what was the cost of the tax free items? |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | Rs. 15 | [**B.**](javascript:%20void%200;) | Rs. 15.70 | | [**C.**](javascript:%20void%200;) | Rs. 19.70 | [**D.**](javascript:%20void%200;) | Rs. 20 |   **Answer & Explanation**  **Answer:** Option **C**  **Explanation:**  Let the amount taxable purchases be Rs. *x*.   |  |  | | --- | --- | | Then, 6% of *x* = | 30 | | 100 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-imp.gif *x* = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 30 | x | 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif = 5. | | 100 | 6 |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Cost of tax free items = Rs. [25 - (5 + 0.30)] = Rs. 19.70 |

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| 14. | Rajeev buys good worth Rs. 6650. He gets a rebate of 6% on it. After getting the rebate, he pays sales tax @ 10%. Find the amount he will have to pay for the goods. |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | Rs. 6876.10 | [**B.**](javascript:%20void%200;) | Rs. 6999.20 | | [**C.**](javascript:%20void%200;) | Rs. 6654 | [**D.**](javascript:%20void%200;) | Rs. 7000 |   **Answer & Explanation**  **Answer:** Option **A**  **Explanation:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Rebate = 6% of Rs. 6650 = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 6 | x 6650 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 399. | | 100 |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Sales tax = 10% of Rs. (6650 - 399) = Rs. | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 10 | x 6251 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif | = Rs. 625.10 | | 100 |   http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Final amount = Rs. (6251 + 625.10) = Rs. 6876.10 |

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| 15. | The population of a town increased from 1,75,000 to 2,62,500 in a decade. The average percent increase of population per year is: |
| |  |  |  |  | | --- | --- | --- | --- | | [**A.**](javascript:%20void%200;) | 4.37% | [**B.**](javascript:%20void%200;) | 5% | | [**C.**](javascript:%20void%200;) | 6% | [**D.**](javascript:%20void%200;) | 8.75% |   **Answer & Explanation**  **Answer:** Option **B**  **Explanation:**  Increase in 10 years = (262500 - 175000) = 87500.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Increase% = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 87500 | x 100 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 50%. | | 175000 |  |  |  |  |  | | --- | --- | --- | --- | | http://www.indiabix.com/_files/images/aptitude/1-sym-tfr.gif Required average = | http://www.indiabix.com/_files/images/aptitude/1-sym-oparen-h1.gif | 50 | http://www.indiabix.com/_files/images/aptitude/1-sym-cparen-h1.gif% = 5%. | | 10 | |