

Name of the Student:

Roll No:

Department:

Class:

EMPLOYABILITY TEST 6

I. Choose the correct alternative:

1. Which one of the following is not a prime number? []
a. 31 b. 61 c. 71 d. 91
2. $(112 \times 5^4) = ?$ []
a. 67000 b. 70000 c. 76500 d. 77200
3. What least number must be added to 1056, so that the sum is completely divisible by 23? []
a. 2 b. 3 c. 18 d. 21
4. $1397 \times 1397 = ?$ []
a. 1951609 b. 1981709 c. 18362619 d. 2031719
5. The largest 4 digit number exactly divisible by 88 is: []
a. 9944 b. 9768 c. 9988 d. 8888
6. The smallest prime number is: []
a. 1 b. 2 c. 3 d. 4
7. How many prime numbers are less than 50? []
a. 16 b. 15 c. 14 d. 18
8. $397 \times 397 + 104 \times 104 + 2 \times 397 \times 104 = ?$ []
a. 250001 b. 251001 c. 260101 d. 261001
9. The smallest 6 digit number exactly divisible by 111 is: []
a. 111111 b. 110011 c. 100011 d. 110101
10. 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. 45% b. $45\frac{?}{??} \%$ c. $54\frac{?}{??} \%$ d. 55%
11. 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. 39, 30 b. 41, 32 c. 42, 33 d. 43, 34
12. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had []
a. 588 apples b. 600 apples c. 672 apples d. 700 apples

- 13.** In a certain school, 20% of students are below 8 years of age. The number of students above 8 years of age is $\frac{?}{7}$ of the number of students of 8 years of age which is 48. What is the total number of students in the school?
a. 72 **b.** 80 **c.** 150 **d.** 100 []
- 14.** 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. 2 : 3 **b.** 1 : 1 **c.** 3 : 4 **d.** 4 : 3
- 15.** 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. 57% **b.** 60% **c.** 65% **d.** 90%
- 16.** A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is: []
a. Rs. 1425 **b.** Rs. 1500 **c.** Rs. 1537.50 **d.** Rs. 1576
- 17.** A, B, C subscribe Rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives: []
a. Rs. 8400 **b.** Rs. 11,900 **c.** Rs. 13,600 **d.** Rs. 14,700
- 18.** Three partners shared the profit in a business in the ratio 5 : 7 : 8. They had partnered for 14 months, 8 months and 7 months respectively. What was the ratio of their investments? []
a. 5 : 7 : 8 **b.** 20 : 49 : 64 **c.** 38 : 28 : 21 **d.** None of these
- 19.** A began a business with Rs. 85,000. He was joined afterwards by B with Rs. 42,500. For how much period does B join, if the profits at the end of the year are divided in the ratio of 3 : 1? []
a. 4 months **b.** 5 months **c.** 6 months **d.** 8 months
- 20.** A, B, C rent a pasture. A puts 10 oxen for 7 months, B puts 12 oxen for 5 months and C puts 15 oxen for 3 months for grazing. If the rent of the pasture is Rs. 175, how much must C pay as his share of rent? []
a. Rs. 45 **b.** Rs. 50 **c.** Rs. 55 **d.** Rs. 60

Key for ET6

1. Explanation:

91 is divisible by 7. So, it is not a prime number.

2. Explanation:

$$(112 \times 5^4) = 112 \times \left(\frac{10}{2}\right)^4 = \frac{112 \times 10^4}{2^4} = \frac{1120000}{16} = 70000$$

3. Answer: Option A

Explanation:

$$\begin{array}{r} 23 \overline{) 1056} \quad (45 \\ \underline{92} \\ 136 \\ \underline{115} \\ 21 \\ \underline{} \end{array}$$

$$\text{Required number} = (23 - 21) = 2.$$

4. Explanation:

$$1397 \times 1397 = (1397)^2$$

$$= (1400 - 3)^2$$

$$= (1400)^2 + (3)^2 - (2 \times 1400 \times 3)$$

$$= 1960000 + 9 - 8400$$

$$= 1960009 - 8400$$

$$= 1951609.$$

5. Explanation:

Largest 4-digit number = 9999

$$\begin{array}{r} 88 \overline{) 9999} \quad (113 \\ \underline{88} \\ 119 \\ \underline{88} \\ 319 \\ \underline{264} \\ 55 \\ \underline{} \end{array}$$

$$\text{Required number} = (9999 - 55) = 9944.$$

6. Explanation:

The smallest prime number is 2.

7. Explanation:

Prime numbers less than 50 are:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47

Their number is 15

8. Explanation:

$$\text{Given Exp.} = (397)^2 + (104)^2 + 2 \times 397 \times 104$$

$$= (397 + 104)^2$$

$$\begin{aligned}
 &= (501)^2 = (500 + 1)^2 \\
 &= (500^2) + (1)^2 + (2 \times 500 \times 1) \\
 &= 250000 + 1 + 1000 \\
 &= 251001
 \end{aligned}$$

9.Explanation:

The smallest 6-digit number 100000.

$$\begin{array}{r}
 111) 100000 \ (900 \\
 \underline{999} \\
 100 \\
 \underline{100} \\
 \text{---}
 \end{array}$$

Required number = 100000 + (111 - 100) = 100011.

10. Explanation:

Number of runs made by running = 110 - (3 x 4 + 8 x 6)
 = 110 - (60)
 = 50.

∴ Required percentage = $\left(\frac{50}{110} \times 100\right)\% = 45\frac{5}{11}\%$

11.Explanation:

Let their marks be (x + 9) and x.

Then, $x + 9 = \frac{56}{100}(x + 9 + x)$

$\Rightarrow 25(x + 9) = 14(2x + 9)$

$\Rightarrow 3x = 99$

$\Rightarrow x = 33$

So, their marks are 42 and 33.

12.Explanation:

Suppose originally he had x apples.

Then, (100 - 40)% of x = 420.

$\Rightarrow \frac{60}{100} \times x = 420$

$\Rightarrow x = \left(\frac{420 \times 100}{60}\right) = 700.$

13.Explanation:

Let the number of students be x. Then,

Number of students above 8 years of age = (100 - 20)% of x = 80% of x.

∴ 80% of x = 48 + $\frac{2}{3}$ of 48

$\Rightarrow \frac{80}{100}x = 80$

$\Rightarrow x = 100.$

14.Explanation:

5% of A + 4% of B = $\frac{2}{3}$ (6% of A + 8% of B)

$\Rightarrow \frac{5}{100}A + \frac{4}{100}B = \frac{2}{3}\left(\frac{6}{100}A + \frac{8}{100}B\right)$

$\Rightarrow \frac{1}{20}A + \frac{1}{25}B = \frac{1}{25}A + \frac{4}{75}B$

$\Rightarrow \left(\frac{1}{20} - \frac{1}{25}\right)A = \left(\frac{4}{75} - \frac{1}{25}\right)B$

$$\Rightarrow \frac{1}{100} A = \frac{1}{75} B$$

$$\frac{A}{B} = \frac{100}{75} = \frac{4}{3}$$

∴ Required ratio = 4 : 3

15. **Explanation:**

Total number of votes polled = (1136 + 7636 + 11628) = 20400.

$$\therefore \text{Required percentage} = \left(\frac{11628}{20400} \times 100 \right) \% = 57\%.$$

16. **Explanation:**

Let the total profit be Rs. 100.

$$\text{After paying to charity, A's share} = \text{Rs.} \left(95 \times \frac{3}{5} \right) = \text{Rs.} 57.$$

If A's share is Rs. 57, total profit = Rs. 100.

$$\text{If A's share Rs. 855, total profit} = \left(\frac{100}{57} \times 855 \right) = 1500.$$

17. **Explanation:**

Let C = x.

Then, B = x + 5000 and A = x + 5000 + 4000 = x + 9000.

So, x + x + 5000 + x + 9000 = 50000

$$\Rightarrow 3x = 36000$$

$$\Rightarrow x = 12000$$

A : B : C = 21000 : 17000 : 12000 = 21 : 17 : 12.

$$\therefore \text{A's share} = \text{Rs.} \left(35000 \times \frac{21}{50} \right) = \text{Rs.} 14,700.$$

18. **Explanation:**

Let their investments be Rs. x for 14 months, Rs. y for 8 months and Rs. z for 7 months respectively.

Then, 14x : 8y : 7z = 5 : 7 : 8.

$$\text{Now, } \frac{14x}{8y} = \frac{5}{7} \Leftrightarrow 98x = 40y \Leftrightarrow y = \frac{49}{20}x$$

$$\text{And, } \frac{14x}{7z} = \frac{5}{8} \Leftrightarrow 112x = 35z \Leftrightarrow z = \frac{112}{35}x = \frac{16}{5}x.$$

$$\therefore x : y : z = x : \frac{49}{20}x : \frac{16}{5}x = 20 : 49 : 64.$$

19. **Explanation:**

Suppose B joined for x months. Then,

$$\text{Then, } \left(\frac{85000 \times 12}{42500 \times x} = \frac{3}{1} \right)$$

$$\Rightarrow x = \left(\frac{85000 \times 12}{42500 \times 3} \right) = 8.$$

So, B joined for 8 months.

20. **Explanation:**

A : B : C = (10 × 7) : (12 × 5) : (15 × 3) = 70 : 60 : 45 = 14 : 12 : 9.

$$\therefore \text{C's rent} = \text{Rs.} \left(175 \times \frac{9}{35} \right) = \text{Rs.} 45.$$