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| **SIMPLIFICATION** |

1. **On sports day, if 30 children were made to stand in a column, 16 columns could be formed. If 24 children were made to stand in a column, how many columns could be formed?**
2. **20 (b) 22 (c) 29 (d) 45**

**30 x 16 = 24 x ? (or) ? = (30 x 16) / 24 = 20**

1. **One-third of the boys and one-half of the girls of a college participate in a social work project. If the number of participating students is 300 out of which 100 are boys, what is the total number of students in the college?**
2. **500 (b) 600 (c) 700 (d) 800**

**Number of boys and girls who participate are 100 and 200 respectively.**

**(1/3) of boys = 100 (or) boys = 100 x 3 = 300**

**(1/2) of girls = 200 (or) girls = 200 x 2 = 400**

**Therefore, total number of students in the college = 300 + 400 = 700**

1. **A class starts at 10 a.m. and lasts till 1.27 p.m. Four periods are held during this interval. After every period, 5 minutes are given free to the students. The exact duration of each period is:**
2. **42 min (b) 48 min (c) 51 min (d) 53 min**

**Time between 10 a.m. and 1.27 p.m. = 3 hours 27 min = 207 min**

**Free time after each period = 5 + 5 + 5 = 15 min (for three periods)**

**Remaining time = 207 – 15 = 192 min**

**Therefore, duration of each of the 4 periods = (192/4) = 48 min**

1. **A tin of oil was (4/5) full. When 6 bottles of oil were taken out and four bottles of oil were poured into it, it was (3/4) full. How many bottles of oil can the tin contain?**
2. **10 (b) 20 (c) 30 (d) 40**

**(4/5) – 6 + 4 = (3/4) or (4/5) – 2 bottles = (3/4) or**

**(4/5) – (3/4) = 2 bottles or (1/20) = 2 bottles or**

**20 x 2 = 40 bottles**

1. **The rent of a guest house was Rs500 per day for the first three days, Rs1000 per day for the next 5 days and Rs3000 per day for other days. The registration fee in the beginning is Rs500. If one has to pay Rs13000, for how many days he availed of this facility?**
2. **7 (b) 8 (c) 9 (d) 10**

**500 + (500 x 3) + (1000 x 5) + 3000 (x days) = 13000 implies**

**3000(x) = 6000 that is x = 2.**

**Total number of days = (3 + 5 + 2) = 10 days**

1. **In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is:**
2. **5 (b) 7 (c) 10 (d) 12**

**Let the no. of cows be x and the no. of hens be y. Then**

**(4x + 2y) – 2(x + y) = 14 implies 2x = 14 or x = 7**

1. **An electronic device makes a beep after every 60 sec. Another device makes a beep after every 62 sec. They beeped together at 10 a.m. The time when they will next make a beep together at the earliest is:**
2. **10.30 a.m. (b) 10. 31 a.m. (c) 10.59 a.m. (d) 11 a.m.**

**LCM of 60 and 62 seconds = 1860 sec = 1860/60 min = 31 min**

**Therefore, they will beep together at 10.31 a.m.**

1. **Six bells commence tolling together and toll at intervals of 2, 4, 6, 8, 10 and 12 seconds respectively. In 30 minutes, how many times do they toll together?**
2. **4 (b) 10 (c) 15 (d) 16**

**LCM of 2, 4, 6, 8, 10, 12 is 120.**

**So, the bells will toll together after every 120 seconds i.e. 2 minutes.**

**In 30 minutes, they will toll together in (30/2) = 15 times.**