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1988 Q23

23. Maria buys computer disks at a price of 4 for \$5 and sells them at a price of 3 for \$5. How many computer disks must she sell in order to make a profit of \$100?

- A) 100 B) 120 C) 200 D) 240 E) 1200

23. D Since the computer disks are bought in groups of 4 and sold in groups of 3, it is easier to consider them in groups of 12 or dozens. Each dozen costs \$15 and sells for \$20 giving a profit of \$5. Thus to get a profit of \$100, she must sell 20 dozen or 240 computer disks.

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1996 Q23

23. The manager of a company planned to distribute a \$50 bonus to each employee from the company fund, but the fund contained \$5 less than what was needed. Instead the manager gave each employee a \$45 bonus and kept the remaining \$95 in the company fund. The amount of money in the company fund before any bonuses were paid was

- (A) \$945 (B) \$950 (C) \$955 (D) \$990 (E) \$995

23. (E) Had there been \$5 more in the company fund, there would have been $\$95 + \$5 = \$100$ which would have been enough to give each employee another \$5. Thus there are $\$100 / \$5 = 20$ employees. So the company fund contained $20 \cdot \$45 + \$95 = \$995$.

OR

The \$95 left over represents \$5 for each employee who would have received \$50. Thus there are $95 / 5 = 19$ of these employees. Hence the amount of money in the company fund before any bonuses were paid was $(19 \times \$50) + (1 \times \$45) = \$995$.

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1998 Q25

25. Three generous friends, each with some cash, redistribute their money as follows: Ami gives enough money to Jan and Toy to double the amount that each has. Jan then gives enough to Ami and Toy to double their amounts. Finally, Toy gives Ami and Jan enough to double their amounts. If Toy has \$36 when they begin and \$36 when they end, what is the total amount that all three friends have?

- (A) \$108 (B) \$180 (C) \$216 (D) \$252 (E) \$288

25. **Answer (D):** Since Toy begins with \$36 and her amount is doubled in the first two exchanges, her amounts are \$36, \$72, \$144, and \$36. This means that she gave away \$108, and this is exactly enough to double the amounts of Ami and Jan. So, the total must be $2(\$108) + \$36 = \$252$.