GRE

Quant Reasoning Assessment

Word Problems 2: Percents& Mixtures

Answer Explanations

SECTION: I- MIXTURES

1. **Correct answer E**
2. **The correct answer D is 6 quarts.**
   Ans: Let me call x as the number of quarts of Maxim that we have to use. This is always the first step in making an equation: giving a name to the number we have to find.
   The resulting mixture of 3 quarts of Minum and x quarts of Maxim will contain 3 * 5% + x * 20% quarts of hydrogen peroxide.
   -> the percentage of hydrogen peroxide in the mixture is
   (3 * 5% + x * 20%) / (x + 3) = 15%
   -> 3 * 5 + 20 * x = 15 * (x + 3)
   -> 15 + 20 * x = 15 * x + 45
   -> 5 * x = 30
   -> x = 30/5 = 6

3. **Correct Ans A**
   : Let the milk quantity by M then
   Total CP--3M
   Total SP--3(M+5)
   As there is a profit of 20% on the total cost price
   120 % of 3M= 3(M+5)
   120/100(3M)=3(M+5)
   360M=300(M+5)
   M=1500/60
   M=25
   Which is 83.33% of 30 litres (25M+5W)
   Other method:
   m is the quantity of milk
   x is the percentage of milk in the mixture
   A milkman sells the mixture at the same price ($3/liter) as before and makes a profit of 20%.
   we have: 1.2*3*m = 3(m + 5) => m=25 liter
   and milkman makes the mixture as: 5*x = m*(100-x) = 25*(100-x) => x= 83.33
   other method:
   Over all he is making 20% profit.
   In other words he is making 20% per litre profit.
   So he is making 20% of $3 as profit = $0.60
   Consider there was x litres of milk.
   So we can form an equation as follows

(x+5) * 3 = x * 3.6
x = 25
So number of litres of milk is 25.
Number of litres of water is 5
Hence % of milk is 25/30 which is 83.33%
Other method:
A different approach:
Milkman is adding 5 liters of water and selling at $3 per liter and so total income because of this process is = 5*3= $15 and due to this milkman is earning 20% more and so $15 is 20% of what?= its 75 = so $75/$3=25 litres of milk.
So we have = 25 litres of milk and 5 litres of water. Now we know the answer.
Other explanation:
The milkman makes a profit of 20%
that means he adds 1 litre for every 5 litres of milk.
so the percentage of milk in the final solution is 5/6 = 83.33%
Different method:
A different approach can be: (False value - Actual value)/False value
False value = 15 + 0.2 * 3 * 5 = 18, Actual value 15
so (18 - 15) / 18 = 1 / 6= 16.67%, this is the percentage of water, thus %age of milk would be 83.33%.

4. **Correct answer: D**

Currently it has 0.85x of ethanol and 0.15x of Benzene (total = x liters).
Let us say we add y liters of ethanol to make the mixture 10% benzene. The total mixture is now x+y liters.
Therefore
0.15 x / (x + y) = 0.10; 0.15 x = 0.10 x + 0.10 y;
y= (0.05x)/ 0.10; y = x/2;

SECTION: II- PERCENTS

5. E
6. E
7. C
8. B
9. C
10.C
11.B
12.E
13.C
14.B
15.E
16.B
17.E
18.C
19.E
20.B