Answer on Question #43148, Math, Other

A wholesaler allows a discount of 20% on the list price to a retailer. The retailer sells at 5% discount on the list price. If a customer paid Rs 38 for an article, what profit is made by the retailer? Find also retailer's percentage profit on his cost, giving your answer correct to two decimal places.

Solution.
Let x is the list price of the article. The wholesaler sells article to the retailer with price $0.8x$ $(100\% - 20\% = 80\%)$. The retailer sells the article to the customer with price $0.95x$ $(100\% - 5\% = 95\%)$. Customer pays Rs 38 for the article, so $0,95x = $ Rs 38 or $x = $ Rs 40. Then the cost price of the article for the retailer is $0.8 \cdot 40 = $ Rs 32 and selling price $0.95 \cdot 40 = $ Rs 38. Hence Profit made by retailer equals Rs 38 $-$ Rs 32 $= $ Rs 6. Hence percentage profit equals $\frac{6}{32} \cdot 100 = 18.75\%$.

Answer: Rs 6, 18.75 %.