

**Task:**

The price of ghee decreases by 10% and then increases by 10% and then again increases by 10%. The final price is \_\_\_\_\_ .

- a) decreased by 1%
- b) increased by 1%
- c) decreased by 2%
- d) neither increased nor decreased.

**Solution:**

Let the start price was  $x$ , then price after 10% decrease is:

$$x - x \cdot \frac{10}{100} = 0.9x$$

Price after first 10% increase is:

$$0.9x + 0.9x \cdot \frac{10}{100} = 0.9x + 0.09x = 0.99x$$

And price after next 10% increase is:

$$0.99x + 0.99x \cdot \frac{10}{100} = 0.99x + 0.099x = 1.089x.$$

The difference between the starting and final price:

$$1.089x - x = 0.089x$$

$0.089x$  is  $\frac{0.089x}{x} \cdot 100\% = 8.9\%$  of the initial price

**Answer:** The final price is increased by 8.9%.

Answer has no matches in (a), (b), (c), (d)!!!