

This book has permission to use the "N&K method of COLORS".

8) Question: What is the value of $40q/p$ if $p/q=20$

- A) 0 Changed
- B) 2
- C) 20
- D) 800

For speed, while solving something similar, only THINK the words in blue; WRITE only the words in other COLORS.

Solution:

Given 1) $p/q=20$

Road Map of Solution:

First, Rewrite the given equation to find the value of p , in terms of q and 20 .

Second, Substitute this value of q in the expression $40q/p$ to find the value.

First, Rewrite the given equation to find the value of p , in terms of q and 20 .

$$\begin{aligned} p/q &= 20 \\ \Rightarrow \frac{p}{q} &= 20 \dots\dots\dots \text{Equation \# 1} \end{aligned}$$

To find the value of "p" in terms of q and 20 we need to rewrite/manipulate equation # 1 above,, such that it reads "p" on the LHS (Left Hand Side)

That can be achieved by multiplying "q" to both sides of equation # 1. Doing the same thing to {both sides} of an equation simultaneously, does NOT change the LOOK of the equation.

$$\begin{aligned} \Rightarrow \frac{p}{q} \times q &= 20 \times q \\ \Rightarrow \frac{p}{q} \times q &= 20 \times q \\ \Rightarrow \frac{p}{1} \times 1 &= 20 \times q \\ \Rightarrow p \times 1 &= 20 \times q \\ \Rightarrow p &= 20 \times q \dots\dots\dots \text{Equation \# 1b} \end{aligned}$$

Second, Substitute this value of "p" in the expression $40q/p$ to find the value.

$$\begin{aligned} & \frac{40q}{p} \\ &= \frac{40q}{\frac{p}{q}} \\ &= \frac{40q}{\frac{20q}{q}} \\ &= \frac{40q}{20q} \\ &= \frac{40}{20} \\ &= \frac{2}{1} \\ &= 2 \dots\dots\dots \text{Answer (B)} \end{aligned}$$