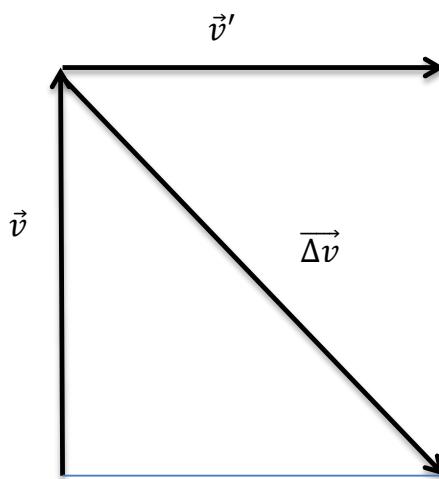


## Answer on Question#38821, Physics, Mechanics

### Question:

A truck travelling due to north at 20m/s turns East and travels at the same speed.  
Find the change in its velocity

### Answer:



where  $\vec{v}$  is velocity directed to north,  $\vec{v'}$  is velocity directed to East,  $\vec{\Delta v}$  is change in velocity.

Pythagorean theorem:

$$\Delta v = \sqrt{|\vec{v}|^2 + |\vec{v'}|^2} = 20\sqrt{2} \frac{m}{s} \approx 28 \frac{m}{s}$$

Answer:  $28 \frac{m}{s}$