

Rearranging Velocity Equation:

on steps 3, 4, and 5, you'll
always start with the same
equation:

$$V = \frac{d}{t}$$

~~$$\frac{d}{V} = t$$~~
~~$$t = \frac{d}{V}$$~~

If you are given velocity and time,
find displacement like this:

$$\textcircled{3} \quad v = \frac{d}{t} \quad 30 \frac{\text{m}}{\text{s}} = \frac{d}{5\text{s}}$$

$$\textcircled{4} \quad 5 \cdot 30 = \frac{d}{\cancel{5}} \cdot \cancel{5}$$

$$150 = d$$

$$d = 150 \text{ m North}$$

If you are given velocity and displacement,
here is how you find time:

$$\textcircled{3} \quad 5 \text{ m/s} = \frac{15 \text{ m}}{t}$$

$$\textcircled{4} \quad t \cdot 5 = \frac{15}{t} \cdot \cancel{t}$$

$$\frac{5 \cdot t}{\cancel{5}} = \frac{15}{\cancel{5}}$$

$$t = 3$$

$t = 3 \text{ s}$

variable	unit
velocity (v)	meters per second ($\frac{m}{s}$)
displacement (d)	meters (m)
time (t)	seconds (s)