

TEST - Wed

- add vectors
  - draw a scale diagram
  - solving mathematically
    - 2 vectors  $\Rightarrow$  draw  $\Delta$
    - 3 or more vectors  $\Rightarrow$  components (from a FBD) (x-y chart)
- Subtract vectors



- components
- relative motion problems
- forces at angles  $\Rightarrow$  FBD
- inclines  $\Rightarrow$  FBD
- also - proportionalities

$$\left. \begin{array}{l} \vec{F}_{net} = m\vec{a} \\ f_f = \mu F_N \\ \vec{F}_g = mg \end{array} \right\}$$

Math tools

+ Kinematics eq.

$$c^2 = a^2 + b^2$$

$$c^2 = a^2 + b^2 - 2ab \cos C \quad \text{Law of Cosines}$$

SOH/CAH/TOA

$$\frac{a}{\sin A} = \frac{b}{\sin B} \quad \text{Law of Sines}$$

You need to know

will be given

Book:

Additional

§10-1

Review: ① NSEXAMS

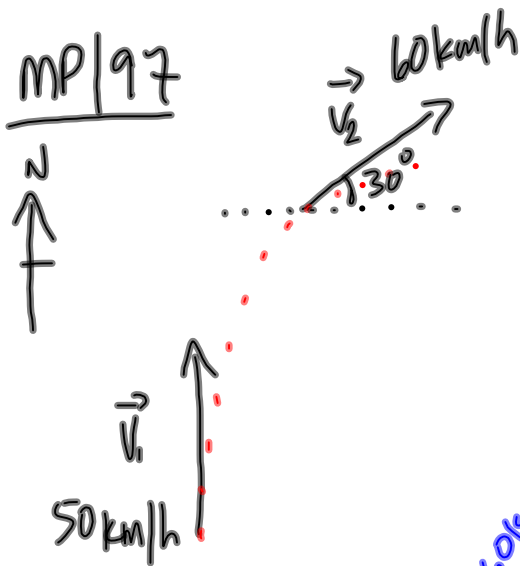
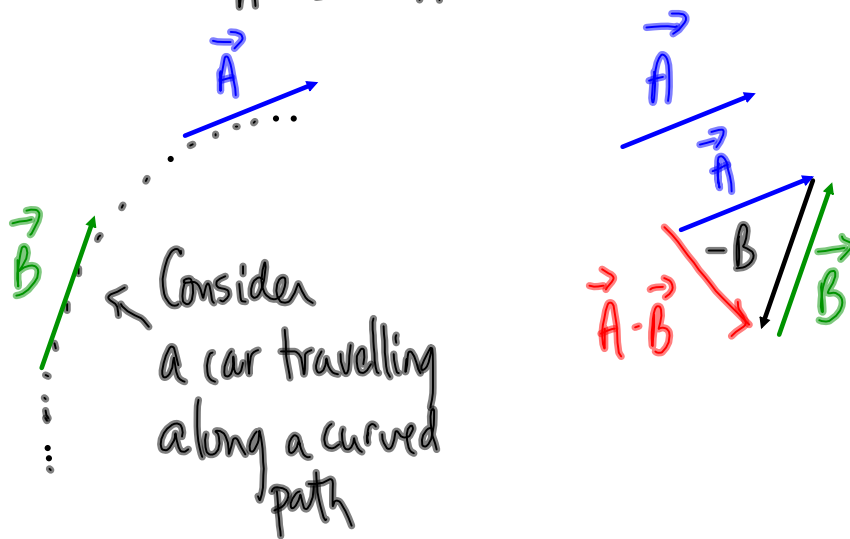
§3-2, 3-3

② MC-GRAW HILL

# Subtraction of Vectors

Consider:  $5 - 2 = 5 + (-2)$

$$\vec{A} - \vec{B} = \vec{A} + (-\vec{B})$$

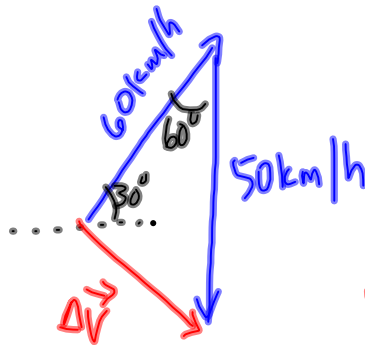


$$\Delta \vec{V} = \vec{v}_2 - \vec{v}_1$$

$$\Delta \vec{V} = 60 \text{ km/h [N60°E]} - 50 \text{ km/h [N]}$$

$$\Delta \vec{V} = 60 \text{ km/h [N60°E]} + 50 \text{ km/h [S]}$$

$$\Delta \vec{V} = ?$$



Finish + check answer p98

PP/98/13-15