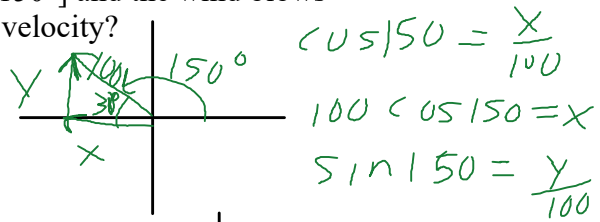
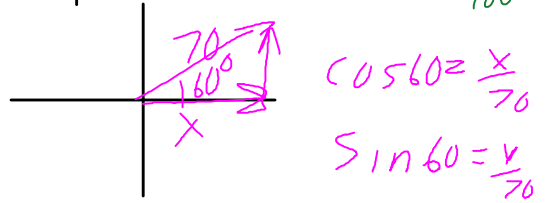


A plane (with Kyle on it?) heads [100 mph, 150°] and the wind blows [70 mph, 60°]. What is the plane's resultant velocity?

a) Plane vector:  $\langle -86.603, 50 \rangle$

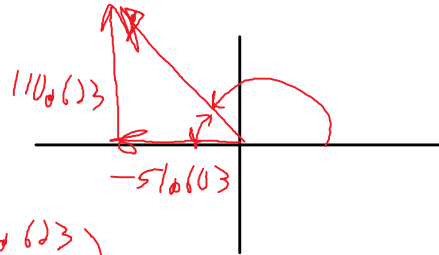


b) Wind vector:  $\langle 35, 60.623 \rangle$



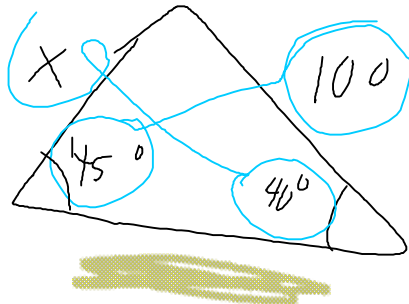
c) Resultant vector:  $\langle -51.603, 110.623 \rangle$

d) Resultant vector:  $\langle 110.623, -51.603 \rangle$



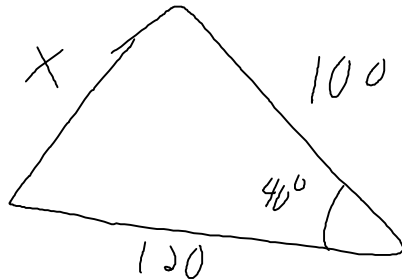
$$\|\vec{r}\| = \sqrt{(110.623)^2 + (-51.603)^2}$$

$$\tan \theta = \frac{110.623}{51.603} \Rightarrow \tan^{-1}\left(\frac{110.623}{51.603}\right) = 65^\circ$$



$$\frac{100}{\sin 45} = \frac{x}{\sin 40}$$

$$\frac{100 \sin 40}{\sin 45} = 90.904$$



$$c^2 = a^2 + b^2 - 2ab \cos C$$

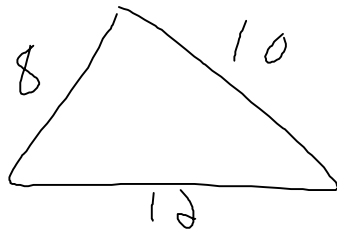
$$x^2 = 100^2 + 120^2 - 2(100)(120) \cos(40)$$

$$x = 77.556$$

$$A_{\Delta} = \frac{1}{2} a b \sin c = \frac{1}{2} (120)(100) \sin 40 = 3856.72$$

(  
(  
40)

$6u^2$



$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

$$A = \sqrt{15(15-8)(15-10)(15-12)}$$

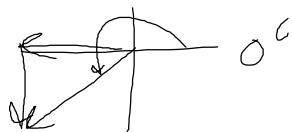
$$= 39.686 \text{ u}^2$$

$$s = \frac{1}{2}(a+b+c)$$

$$s = 15$$

Ch 6 Rev pg 456: 1, 5, 13, 19, 23, 33, 37-81, 85, 87 all odd

$$61) \quad -3\mathbf{i} - 3\mathbf{j} = \langle -3, -3 \rangle = [ \quad , \quad ]$$



$$\frac{(s-6)(s-4)}{(s-10)(s-12)}$$

$$\frac{2}{(s-10)(s-12)}$$

811)  $\angle$  between

$$\cos \theta = \frac{-4 + -4}{(\sqrt{24})(\sqrt{3})}$$

$$\theta = \cos^{-1} \left( \frac{-8}{(\sqrt{24})} \right)$$

$$\langle 2\sqrt{2}, -4 \rangle \neq \langle -\sqrt{2}, 1 \rangle$$

$$\langle \sqrt{3} \rangle$$