

Law of Sines

Write $\frac{\sin A}{a} = \frac{\sin B}{b}$

ASA SSA $\begin{cases} 1 \\ 2 \end{cases}$
 AAS

No $\Delta = \sin A = 1.326$

Pretend Given $B = 48^\circ$

Calculated

$A = 55^\circ$

$B = 48^\circ$

$C =$



$A' = 125^\circ$
 $B = 48^\circ$
 $C' = 7^\circ$

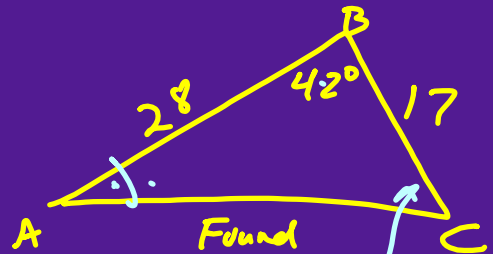
$> 125 + 48 = 173$

Write x, y, z $a = -9.8 \text{ m/s}^2$ $a = -32 \text{ ft/s}^2$

Law of Cosines

Write $a^2 = b^2 + c^2 - 2bc \cos A$
 SSS

SAS — $\textcircled{1}$ Find 3rd side



Find C.

might be obtuse

Find smallest angle next!

7. $|v| = 8$ $\theta = 60^\circ$

Find Component form $\langle x, y \rangle$

$$x = |v| \cos \theta = 8 \cos 60^\circ = 4$$

$$y = |v| \sin \theta = 8 \sin 60^\circ = 4\sqrt{3}$$

Dot product

$$\langle 3, -4 \rangle \cdot \langle 6, 2 \rangle$$

$$(3 \cdot 6) + (-4 \cdot 2)$$

$$18 + -8 = 10$$

If = 0, or thogonal

Parallel = find slope $\frac{y}{x}$

$$m = -4/3 \quad m = 2/6$$

Not parallel

$\langle \overset{x}{-3}, \overset{y}{8} \rangle$ ← component

Find $|v| + \theta$



$$(-3)^2 + 8^2 = |v|^2$$

$$\sqrt{73} = \sqrt{|v|^2}$$

$$\sqrt{73} = |v|$$

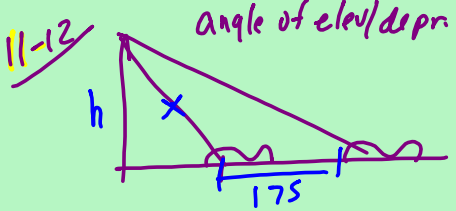
$$|v| = \sqrt{x^2 + y^2}$$

$$\tan \theta = \frac{y}{x} = \frac{8}{-3}$$

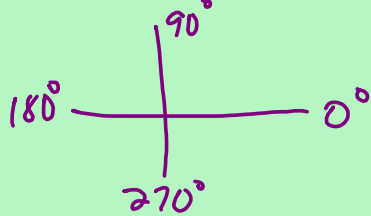
$$\tan^{-1}(8/3) = 69^\circ$$

$180 - 69^\circ$

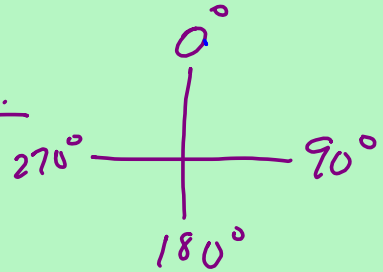
$$|v| = \sqrt{73} \quad \theta = 111^\circ$$



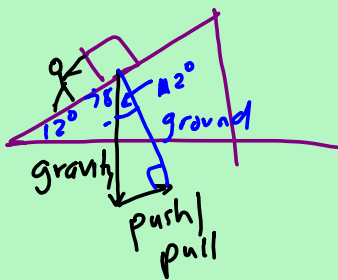
Forces



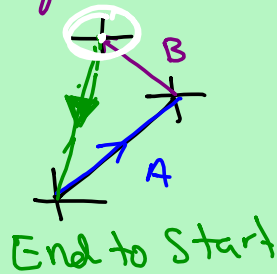
Navig.



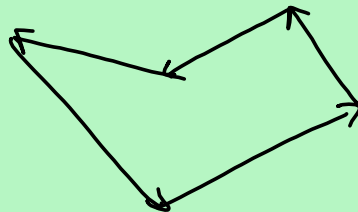
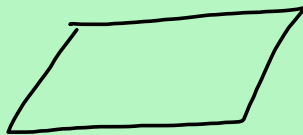
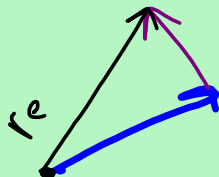
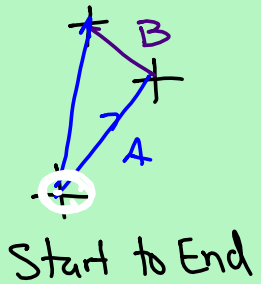
Incline Prob



Equil. brium



Resultant



Parametric Eq. — Projectile Motion

$$x_t =$$

$$y_t =$$