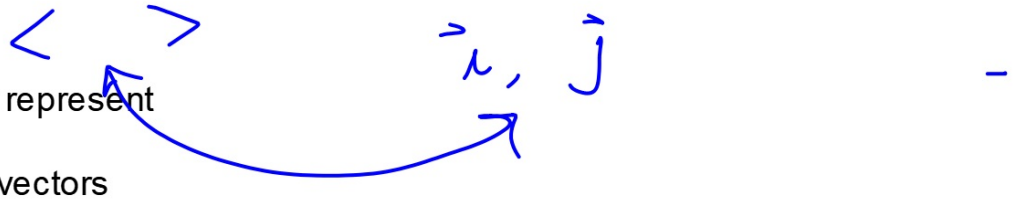
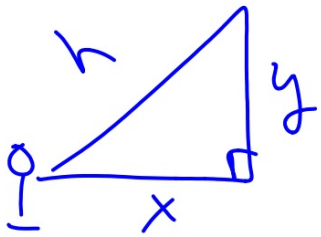
Trig 8.2



Find ordered pairs that represent vectors
Add, subtract, multiply vectors
Find the magnitude of vectors

vector components



horizontal (cos) x

vertical (sin) y

resultant combine

magnitude length $|\vec{n}|$

whiteboards

< > frackets...component form

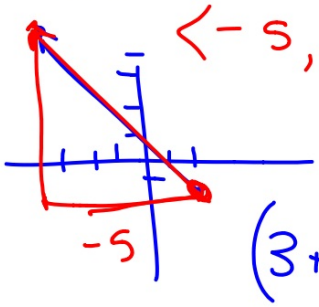
-3-2, 4--1

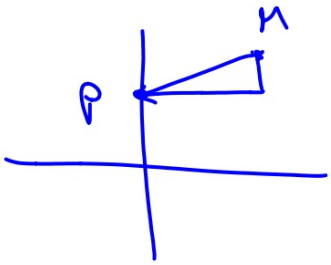
Write the ordered pair that represents $\overline{MP}$. Then find the magnitude of $\overline{MP}$.

4. $M(2, -1), P(-3, 4)$ 5. $M(5, 6), P(0, 5)$ 6. $M(-19, 4), P(4, 0)$

init term

<-5,5>





-5

(3+5)+1

<-5,-1>

3+5

5+3

3+(5+1)

(3-5)+1

-5 i -1 j

5-(5-1)

What does it mean? (say it)

Find an ordered pair to represent $\vec{t}$ in each equation if $\vec{u} = \langle -1, 4 \rangle$ and $\vec{v} = \langle 3, -2 \rangle$.

9. $\vec{t} = 4\vec{u} + 6\vec{v}$

10. $\vec{t} = -8\vec{u}$

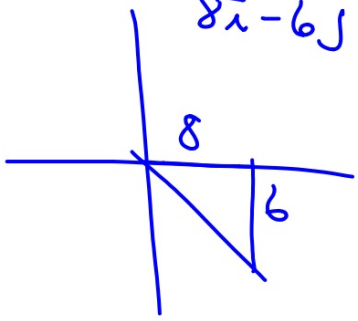
$\vec{t} = 4\langle -1, 4 \rangle + 6\langle 3, -2 \rangle$

$= \langle -4, 4 \rangle + \langle 18, -12 \rangle$

$t = \langle 14, -8 \rangle$

Find the magnitude of each vector. Then write each vector as the sum of unit vectors.

11. $\langle 8, -6 \rangle$ 10 $8\vec{i} - 6\vec{j}$

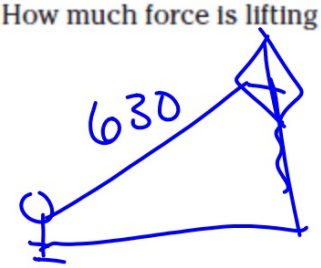


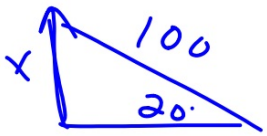
12. $\langle -7, -5 \rangle$

44. Recreation In the 12th Bristol International Kite Festival in September 1997 in England, Peter Lynn set a record for flying the world's biggest kite, which had a lifting surface area of 630 square meters. Suppose the wind is blowing against the kite with a force of 100 newtons at an angle 20° above the horizontal.

a. Draw a diagram representing the situation.

b. How much force is lifting the kite?



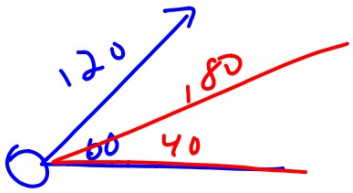


$\sin 20 = \frac{x}{100}$

$34\text{N} = x$

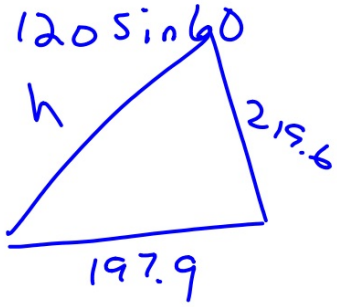
(vertical)

15-47 odd
p. 497



$x = 120\cos 60$

$y = 120\sin 60$



$x = 180\cos 40$

$y = 180\sin 40$ $\langle 197.9, 219.6 \rangle$

295.6 N