

Tuesday, April 4, 2017

- ✓ Opener: Below
- ✓ Writing Parametric Equations
- ✓ HW: On Calendar/Online!



Openers

- ①  $x = t^2 - 2$       (a) Graph on Calculator  
 $y = 3t$               (b) sketch  
 $-2 \leq t \leq 3$         (c) Eliminate Parameter

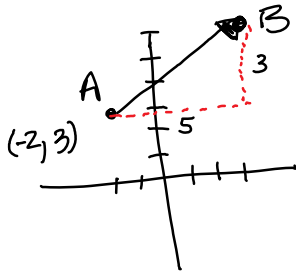
- ②  $x = 3 \cos t$               same directions!  
 $y = 3 \sin t$                $0 \leq t \leq 2\pi$

**NO PHONES during class please! If you are using your phone during class, you will get a Dean's write up. I will not discuss this with you in class.**

6.3 Writing Parametric Equations

① Line Segment / Line

A(-2, 3)    B(3, 4)



Vector from A to B

$\vec{AB} = \langle 5, 3 \rangle$

$x = -2 + 5t$   
 $y = 3 + 3t$   
 $0 \leq t \leq 1$

OR start at B  
 $x = 3 - 5t$   
 $y = 6 - 3t$

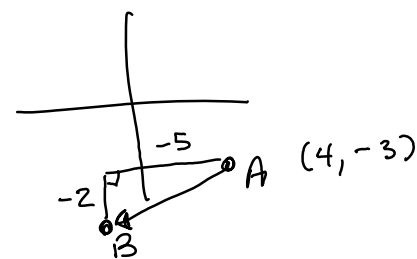
Line :  $-\infty \leq t \leq \infty$

② A(4, -3)    B(-1, -5)

(a) SEGMENT  $0 \leq t \leq 1$

(b) LINE  $-\infty \leq t \leq \infty$

$x = 4 - 5t$   
 $y = -3 - 2t$



(b) LINE  $-\infty \leq T \leq \infty$   $y = -3 - 2T$   $\frac{0}{3}$

## Circles

(3) Center  $(0, 0)$   $r = 5$   $x^2 + y^2 = 25$

$$X = 5 \cos T$$

$$Y = 5 \sin T$$

$$0 \leq t \leq 2\pi$$

(4) Center  $(-3, 2)$ ,  $r = 3$   $(x+3)^2 + (y-2)^2 = 9$

$$X = -3 + 3 \cos T$$

$$Y = 2 + 3 \sin T$$

$$0 \leq t \leq 2\pi$$