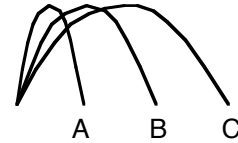


## Projectile Motion Concept Sheet

4. Imagine that three different projectiles were launched across a level field. All the projectiles had the exact same maximum height, but they landed in different places. The paths of the projectiles are shown in the diagram to the right.



- a. Which projectile was in the air the longest time?

all the same! (b/c same height)

- b. Which projectile had the largest initial vertical velocity?

all the same! (b/c same height)

- c. Which projectile had the largest horizontal velocity?

C it went the farthest in the same time ( $v_x = \frac{x}{t}$ )

- d. Which projectile had the largest initial speed?



$v_{yi}$  all =

so biggest  $v_x$  gives biggest  $v_i$

- e. Which projectile had the largest minimum speed? → a.k.a "largest  $v_x$ "

C (same question as "c" above)

5. Imagine that three different projectiles were launched across a level field. All the projectiles landed in the same place, but had different maximum heights. The paths of the projectiles are shown in the diagram to the right.



- a. Which projectile was in the air the longest time?

C (b/c it went the highest)

- b. Which projectile had the largest initial vertical velocity?

C (b/c it went the highest)

- c. Which projectile had the largest horizontal velocity?

A They all went the same distance BUT A did so in the least time

- d. Which projectile had the largest initial speed?

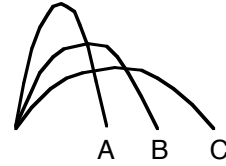
can't tell! Could be any of them - you would need more info to

- e. Which projectile had the largest minimum speed?

A

## Projectile Motion Concept Sheet

6. Imagine that three different projectiles were launched across a level field. The projectiles all had different maximum heights and landed in different places. The paths of the projectiles are shown in the diagram to the right.



- a. Which projectile was in the air the longest time?

A

- b. Which projectile had the largest initial vertical velocity?

A

- c. Which projectile had the largest horizontal velocity?

C

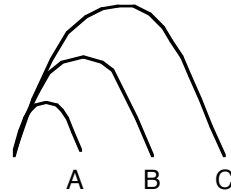
- d. Which projectile had the largest initial speed?

not enough information to say

- e. Which projectile had the largest minimum speed?

C

7. Imagine that three different projectiles were launched across a level field. The projectiles all had different maximum heights and landed in different places. The paths of the projectiles are shown in the diagram to the right.



- a. Which projectile was in the air the longest time?

C

- b. Which projectile had the largest initial vertical velocity?

C

- c. Which projectile had the largest horizontal velocity?

?

- d. Which projectile had the largest initial speed?

?

- e. Which projectile had the largest minimum speed?

?

} not enough information!