

Projectile Practice

A couple backwards problems

2011-2012

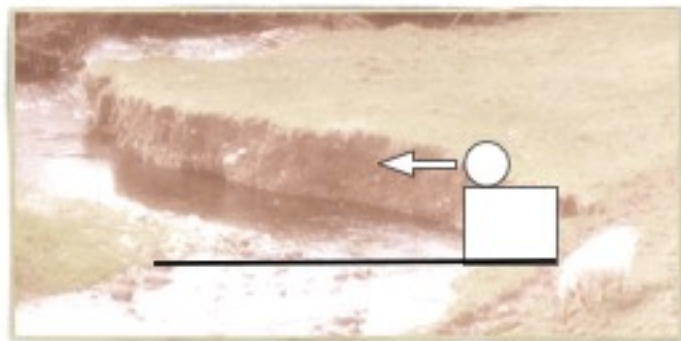
Jump the Creek



- A student on a picnic sees a mean looking goat coming after her. The creek is 3.2 m wide, the cliff is 1.8 m tall. How fast does she need to run in order to make it across?

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Jump Home



- How far up the CN Tower would you have to be if you wanted to be able to jump the distance from third base to home (90 ft or 27.4m)?
- assume you could run first and get a speed of 3.5 m/s

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- How far up the CN Tower would you have to be if you wanted to be able to jump the distance from first base to home (90 ft or 27.4m)?
- assume you could run first and get a speed of 3.5 m/s



The Punt

- Honors Example



Photo by Getty Images / Wikimedia Foundation

File:Jared, Chicago United punt

Photo by Getty Images / Wikimedia Foundation

The Punt

- Honors Example

- A kicker kicks a football (from the ground) with a speed of 19 m/s at a 67° angle.
- How long will the ball be in the air?
- How far will the ball go?
- If a receiver is 35m away, what velocity must he run to catch the ball just before it hits the ground?



Photo by Getty Images / Wikimedia Foundation

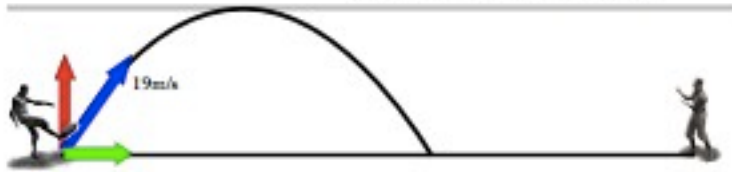
File:Jared, Chicago United punt

Photo by Getty Images / Wikimedia Foundation

The Punt

- Honors Example

- A kicker kicks a football (from the ground) with a speed of 19 m/s at a 47° angle.
- How long will the ball be in the air?
- How far will the ball go?
- If a receiver is 35m away, what velocity must he run to catch the ball just before it hits the ground?



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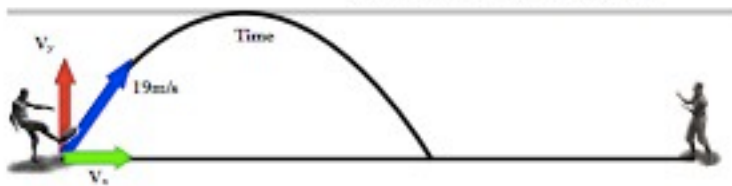
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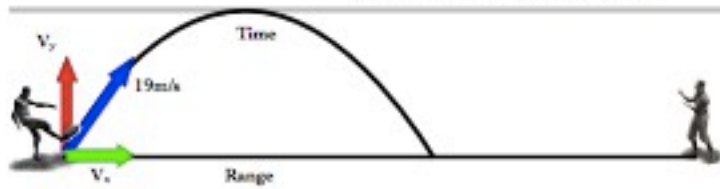
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The Punt

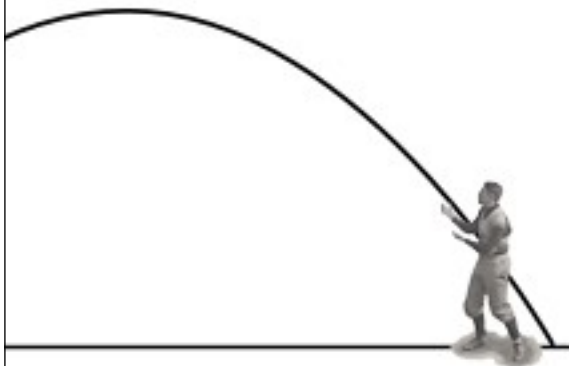
- Honors Example

- A kicker kicks a football (from the ground) with a speed of 19 m/s at a 47° angle.
- How long will the ball be in the air?
- How far will the ball go?
- If a receiver is 38m away, what velocity must he run to catch the ball just before it hits the ground?



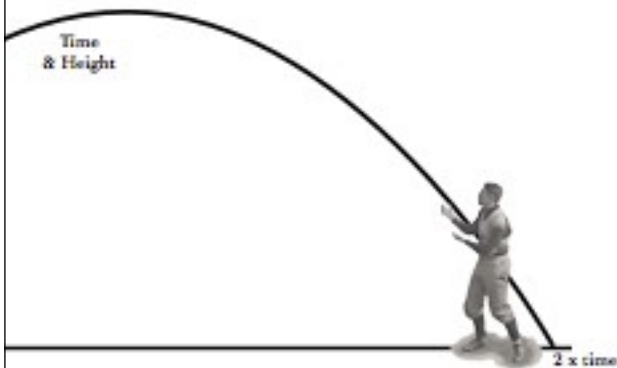
What if.... ?

- The receiver actually catches the ball at a height of 1.3 m?



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