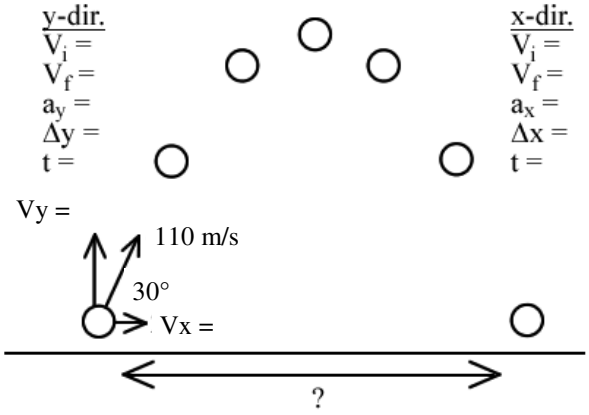
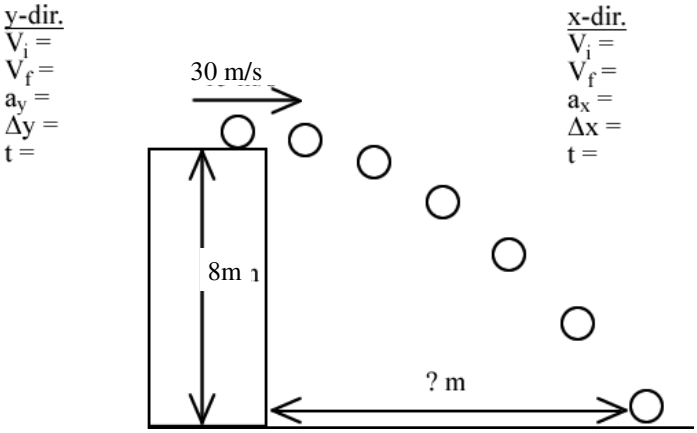
Due Tues, Oct 2

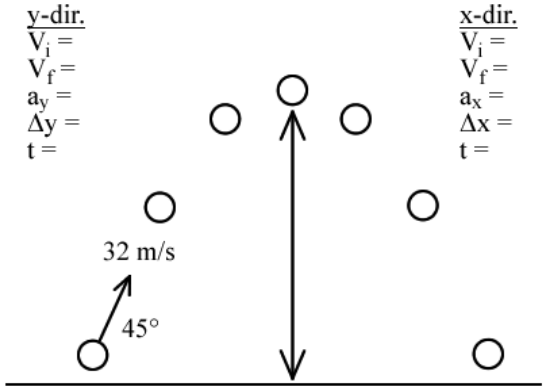
2012 PreAP Two Dimensions 8



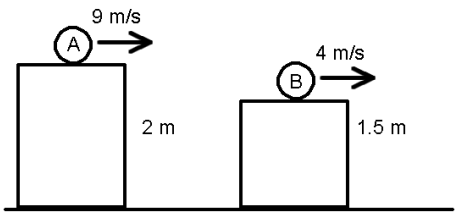
1. * A projectile is launched at 30° going 110 m/s. Calculate the time in the air and how far away it lands. You may use the diagram if you need to. (*Full key on back: don't just copy: learn.)*



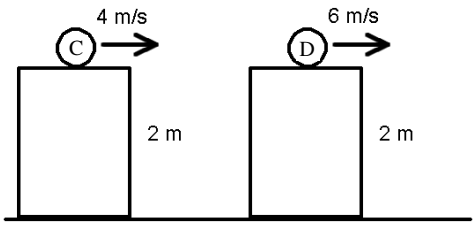
2. * An object is launched horizontally from the top of an 8 m tall ledge going 30 m/s.



3. An object (say "Jar Jar Binks") is launched at 45° and 32 m/s. How high does he go?

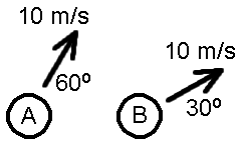


4. Two objects are shot from horizontal platforms as shown. Which ball (A or B) is in the air for the most time?



5. A. Which ball (C or D) takes the most time to hit the ground?

   B. Which ball has the greatest range?

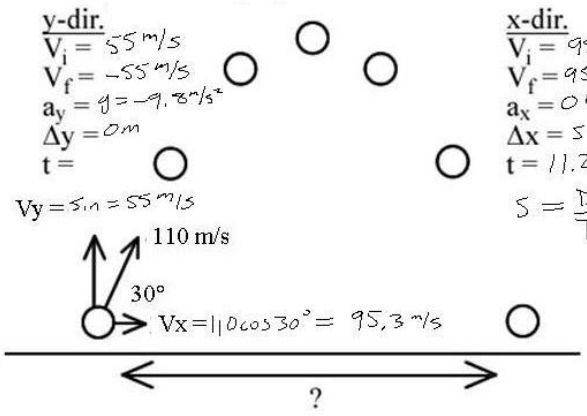


6. Ball A or B above?
   A. Has the greatest y-velocity?

   B. Will go the highest?

Due Tues, Sept 27

2011 PreAP Two Dimensions 8



1. * A projectile is launched at 30° going 110 m/s. Calculate the time in the air and how far away it lands. You may use the diagram if you need to. (*Full key on back: don't just copy: learn.*)

y-dir.

$V_f = V_i + at$

$-55 = 55 - 9.8t$

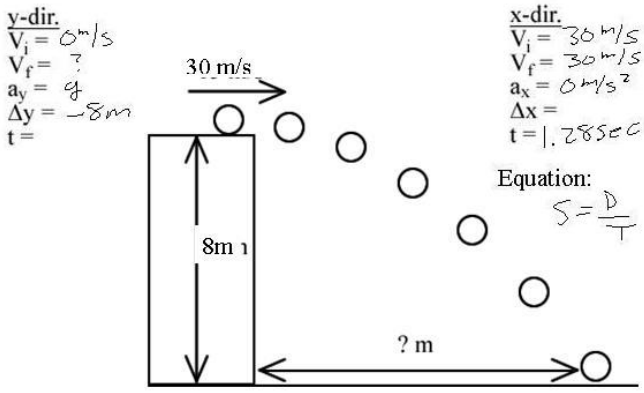
$-110 = -9.8t$

$t = 11.2\ sec$

$D = ST$

$= 95.3(11.2)$

$= 1067.4\ m$



An object is launched horizontally from the top of n 8 m tall ledge going 30 m/s.

y-dir.

$\Delta y = V_i t + \frac{1}{2}at^2$

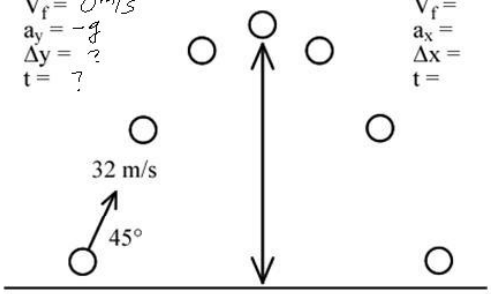
$-8 = -4.9t^2$

$t = 1.28\ sec$

$D = ST$

$D = 30(1.28)$

$38.4\ m$



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only a y-dir. question

$V_y = 32\sin 45^\circ = 22.6\ m/s$

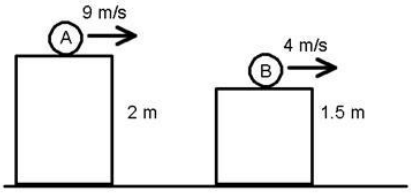
$V_f = 0\ m/s$

$V_f^2 = V_i^2 + 2a\Delta y$

$0 = 22.6^2 - 19.6\Delta y$

$-510.76 = -19.6\Delta y$

$26.1\ m = \Delta y$



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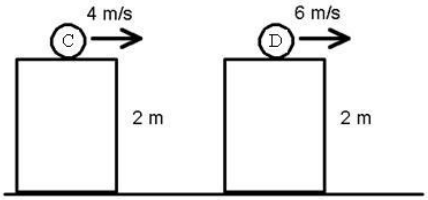
(Figure it out)



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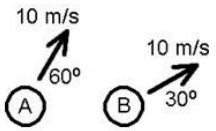

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cstephenmurray.com

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