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|  | **Diagnostics Test** Sept. 23, 2016 |
|  | When you throw a ball up in the air, during the motion (choose the right answer)   1. The acceleration is maximum at the top 2. The acceleration is maximum when its coming down 3. The acceleration is constant 4. The acceleration is minimum at the top |
|  | A ball is thrown in the air at angle 300 and follows the trajectory (A is the starting point) as is shown in the figure (right). Which of the following is true? (Neglect air resistance.)  B  A  C   1. It travels slowest at point B 2. It travels fastest at point B 3. It travels slowest at point A and C 4. It travels with constant velocity throughout the whole trajectory |
|  | What other angle would give the same horizontal distance of travel as that shown above for 30o if the initial speed were the same?   * 1. 20o   2. 40o   3. 50o   4. 60o   5. None of these |
|  | https://www.webassign.net/sb5/5-15.gifThe tension T in the string and the weights of the two masses must be like:   1. T > m1g > m2g 2. T > m2g > m1g 3. m1g > T > m2g 4. m2g > T > m1g 5. m2g > m1g >T |
|  | The velocity of an object as a function of time is shown in the graph below.  https://www.webassign.net/mbt/1-03fig.gif  Which graph best represents the net force versus time relationship for this object?  https://www.webassign.net/mbt/1-03.gif |
|  | https://www.webassign.net/mbt/1-07.gifA person pulls a block (weight W) across a rough horizontal surface (friction force k) at a **constant speed** by applying a force **F**. The arrows in the diagram correctly indicate the directions, but not necessarily the magnitudes of the various forces on the block. Which of the following relations among the force magnitudes W, k, N and F **must be true**?   1. F = k and N = W 2. F = k and N > W 3. F > k and N < W 4. F > k and N = W 5. none of the above choices |