Hint 2

1. You can continue to send the solution to the main problem.

2. At any time before the final deadline, you can switch to *alternative task*. If you do this, write *at* the very beginning of the solutionI'm moving on to an alternative task!. In this case, you get an additional coefficient of 0.7, which is multiplied by the old coefficient, and the solutions to the main problem are not checked from this point on. Be careful!

3. The task consists of several items. The penalty multiplier earned by **before** is applied to all points. In the future, each item is evaluated as a separate task. If you send a solution without any item, this item's solution is considered as Incorrect. For more information about scoring points for composite tasks, see the rules of the Cup.

Alternative problem

1. (*2 pts*) A weight of mass m is attached to a vertical rubber cord with a stiffness coefficient of k. The weight was given vertical speed. Build a phase portrait of the oscillations (dependence of the speed of the load on its coordinate).

2. (*6 pts*) On an inclined plane, forming an angle alpha with the horizon, there is a bar fixed to a spring with rigidity k. The friction coefficient between the bar and the plane is μ. The bar is deflected downward along the plane at a distance A from the point corresponding to the equilibrium position of the bar in the absence of friction. Then the bar is released. Determine the position of the final stop of the bar. Build a phase portrait of the oscillations (dependence of the speed of the load on its coordinate).

3. (*2 pts*) Solve the previous problem for the case when at each moment corresponding to the maximum stretching of the spring, the bar is given an impulse in the direction of reducing the length of the spring. What is the magnitude of this pulse, if the oscillations are in steady state with a maximum lengthening of the spring L.