

Don't forget to EXPLAIN these answers!

- C.3 A skydiver jumps out of a plane. Does the mechanical energy of the jumper change while she is falling? Ignore the effects of air resistance.

Yes  No

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- C.4 At the gym, your trainer places a 8.0 kg dumbbell in each of your outstretched hands. You hold them there for 20 seconds. Have you done any work during those 20 seconds?

Yes  No

- 1.1 An airline pilot pulls her 12.0 kg rollaboard suitcase along the ground with a force of 25.0 N for 10.0 meters. The handle she pulls on makes an angle of 36.5 degrees with the horizontal. How much work does she do over the ten-meter distance?

J

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- 6.3 A bullet of mass 10.8 g leaves a gun barrel with a velocity of 511 m/s. What is the bullet's kinetic energy?

J

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- 7.3 A hockey stick applies a constant force over a distance of 0.121 m to an initially stationary puck, of mass 152 g. The puck moves with a speed of 51.0 m/s. With what force did the hockey stick strike the puck?

N

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- 12.1 How much power would be required to hoist a 48 kg couch up to a 22 m high balcony in 5.0 seconds? Assume it starts and ends at rest.

W

[view answer](#)