

- 12** A weather balloon, initially stationary on the ground, contains an ideal gas with an internal energy of 500 J. The balloon is then launched into the air, reaching a certain altitude Y where the potential energy of the gas has increased by 100 J and its kinetic energy is 250 J.

Assuming the balloon is tied tightly and there is no heat transfer or work done on the ideal gas, what is the internal energy of the gas when the balloon is at that altitude Y?

A 150 J

B 350 J

C 500 J

D 850 J