

Chapter 3 Energy in systems. (Revision Questions page 130). Multiple Choice Answers

Q	Ans	Explanation
1	B	Ice is a solid, so particles can't move around from place to place.
2	A	The rate of heat flow is proportional to the cross-sectional area and hence the rate increases as the thickness increases.
3	C	The heat energy can be transferred from your feet to the tiles more quickly than it can into the carpet as the tiles have a higher thermal conductivity. So your foot cools down quicker when on the tiles than when on the carpet.
4	D	$\Delta U = Q + W = -1000$ (because heat is removed so Q is negative) $+ -100$ (work is done so W is negative) $= -1100$ J
5	B	$\Delta U = Q + W$ $+800$ (internal energy increases so ΔU is $+$) $= Q + +500$ (work done on the system so W is positive) $Q = +800 - 500 = +300$ J (heat is absorbed (taken in) by the system as Q is positive).

Downloaded from seniorphysics.com/ncpq.