

1	A and E are the only correct answers <i>Since the man, roof and ground do not touch the box, they cannot provide force</i>
2	The gravitational force from the Earth is directed downward. The tension force from the rope is directed upward.
3	A, B, D, F are correct <i>Since the crate is in motion, static friction does not act.</i>
4	The gravitational force from the Earth is directed downward. The normal force from the grass is directed upward. The pushing force from the man is directed to the right. The kinetic friction force from the grass is directed to the left.
5	A, B, F are correct <i>Since the box sits still, kinetic friction does not act. And since the grassy surface does not touch the box, it does not provide force to the box.</i>
6	The gravitational force from the Earth is directed downward. The normal force from the ramp is directed up and to the right (perpendicular to surface). The static friction force from the ramp is directed up and left (parallel to the surface).
7	A, C, D, F are correct <i>Since the box sits still, kinetic friction does not act. And since the ground does not touch the box, it does not provide a force.</i>
8	The gravitational force from the Earth is directed downward. The normal force from the ramp is directed to the left (away from and perpendicular to the wall). The static friction force from the wall is directed up (if there was no friction, the box would slide downward. This means that its intended motion is downward, and static friction would be opposite intended motion and parallel to the wall). The man's pushing force is directed horizontally to the right.