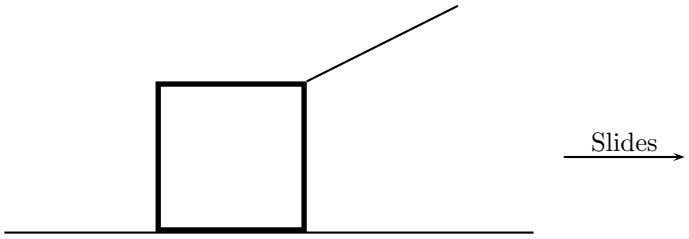
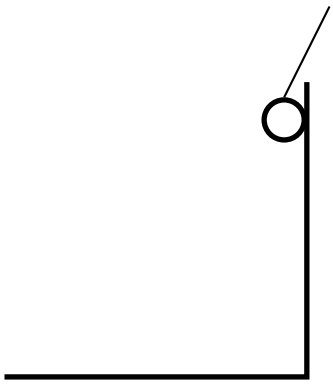
Name: _____

For each situation draw a free body diagram depicting every force acting on the object. Clearly note both what each force is and the direction of each force.

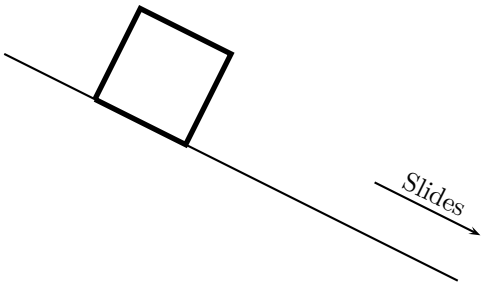
1. A crate is pulled across a horizontal floor by means of a rope attached to it.



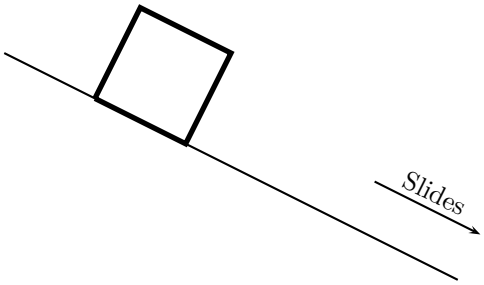
2. A ball hangs from a string and is touching the side of a frictionless wall.



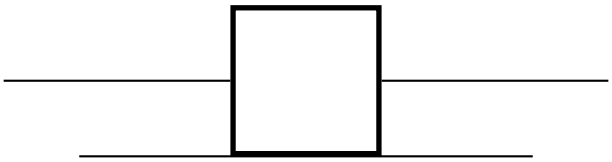
3. A block slides down a frictionless ramp.



4. A block slides down a ramp with friction.

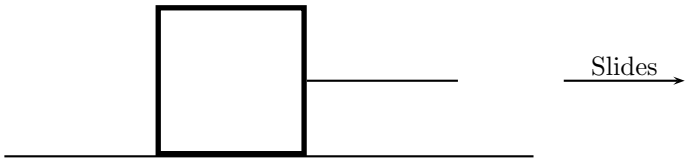


5. A crate is pulled by two opposing forces via ropes, the one from the right being the stronger of the two. It lies on a horizontal floor and remains at rest.



For each situation draw a free body diagram depicting every force acting on the object. Clearly note both what each force is and the direction of each force. Draw your choice of x and y axes and write the sum of the forces along each axis for each situation. You don't need to do any calculations with the net force.

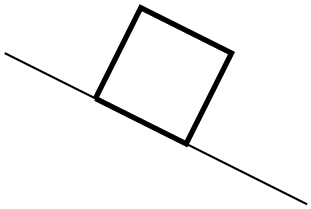
1. A block slides across a horizontal floor, pulled horizontally by a string attached to it.



$F_{net\ x} =$

$F_{net\ y} =$

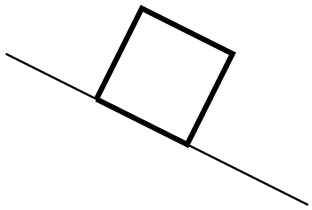
2. A block sits in place on a ramp.



$F_{net\ x} =$

$F_{net\ y} =$

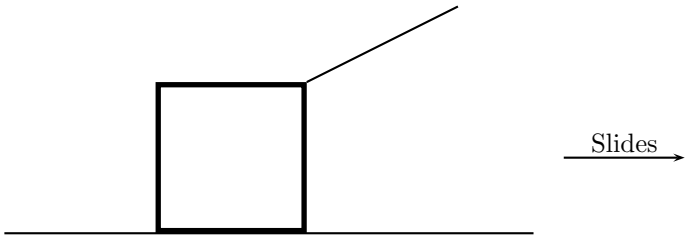
3. A block sits in place on a frictionless ramp, held there by a person pushing horizontally.



$F_{net\ x} =$

$F_{net\ y} =$

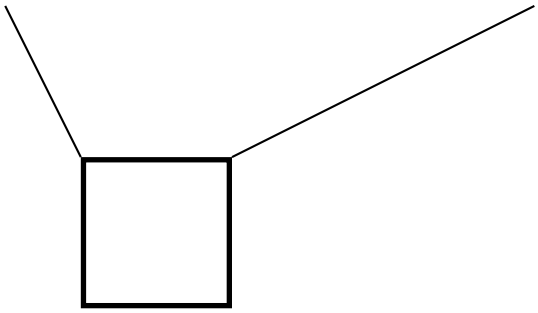
4. A crate is pulled across a horizontal floor by means of a rope attached to it.



$F_{net\ x} =$

$F_{net\ y} =$

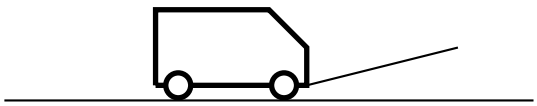
5. A painting is held up by two strings.



$F_{net\ x} =$

$F_{net\ y} =$

6. A car is stuck in the mud. To pull the van out of the mud a tow truck attaches a cable inclined above the horizontal to the van. Several people push horizontally from behind the van.



$F_{net\ x} =$

$F_{net\ y} =$