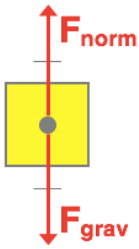
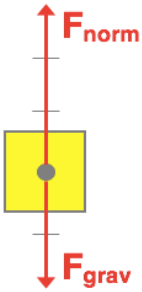
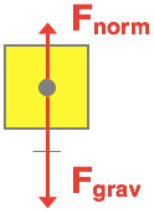
Change of State

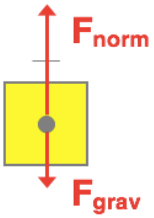
Question 1:

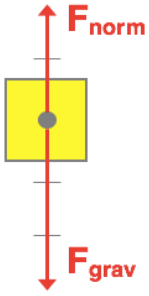
An elevator rider is moving upward at a constant speed. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like when this upward-moving rider undergoes a slowing down process? Select a force diagram from the choices provided on the right.

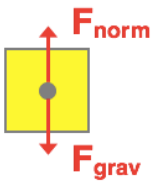






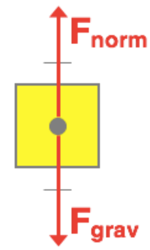


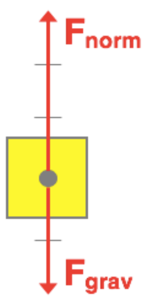


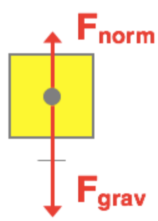


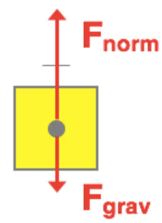
Question 2:

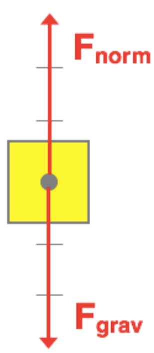
An elevator rider is at rest on the ground floor. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like when this rider is in a state of moving upward with an increasing speed? Select a force diagram from the choices provided on the right.

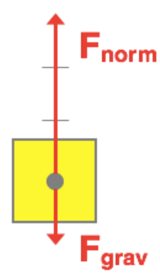






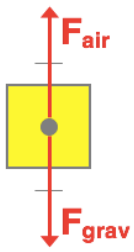


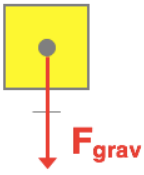


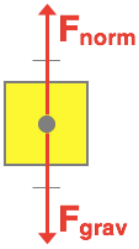


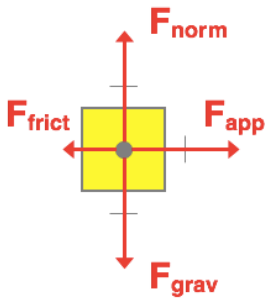
Question 3:

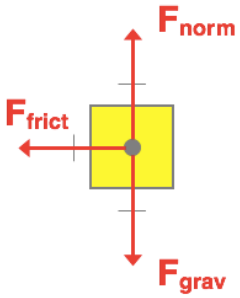
A disk is moving rightward at a constant speed across a 'no-friction' air table. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like if the air is turned off and this rightward-moving disk is in the state of slowing down? Select a force diagram from the choices provided on the right.

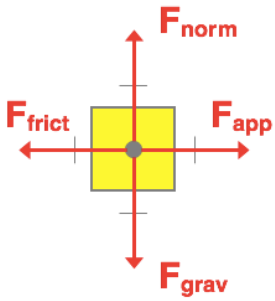






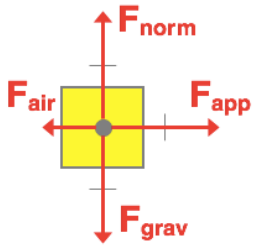


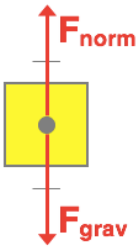


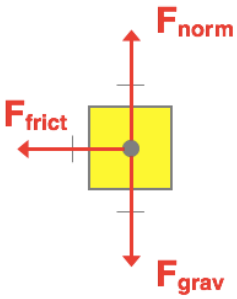


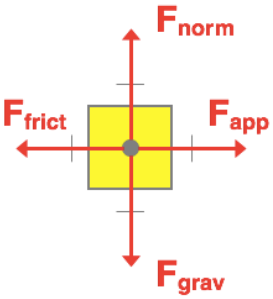
Question 4:

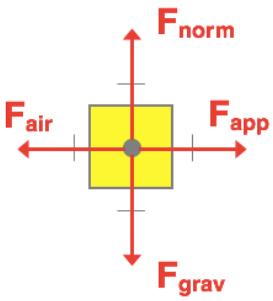
A rightward-moving car is speeding up. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like if the driver eases off slightly on the gas pedal and maintains a constant speed? Select a force diagram from the choices provided on the right.

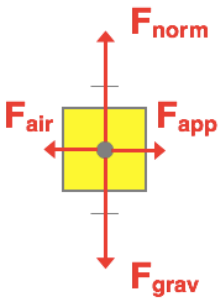






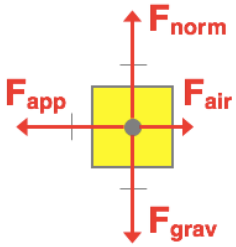


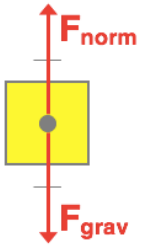


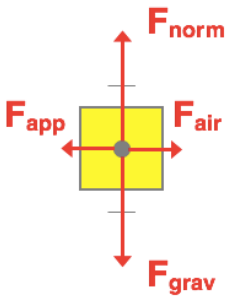


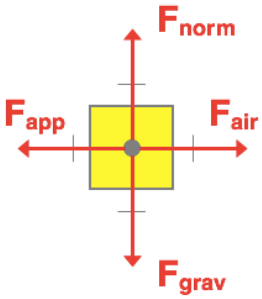
Question 5:

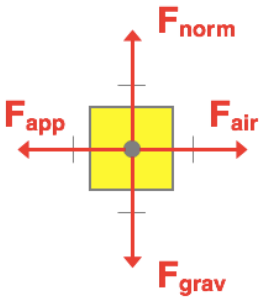
A leftward-moving car is speeding up. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like if the driver eases off slightly on the gas pedal and maintains a constant speed? Select a force diagram from the choices provided on the right.

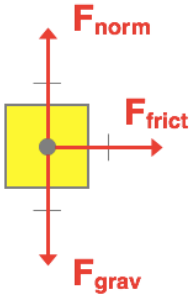






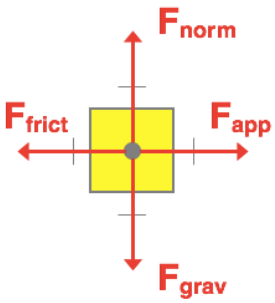


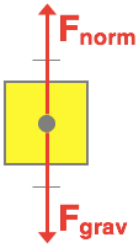


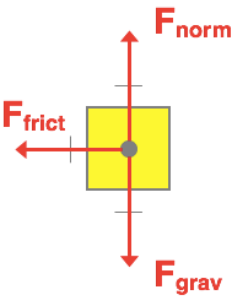


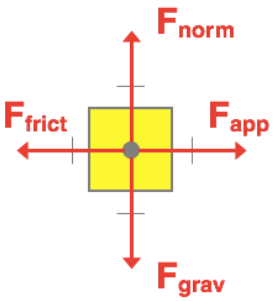
Question 6:

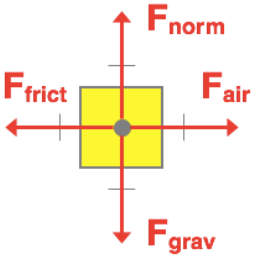
A worker is applying a force on a large crate to move it rightward at a constant speed. The Force Diagram for this state of motion is shown on the left. What will the Force Diagram look like if the worker stops pushing and the rightward-moving crate is in a state of slowing down? Select a force diagram from the choices provided on the right.

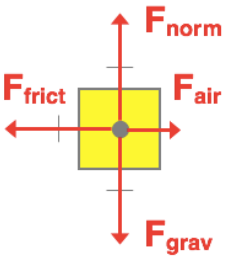




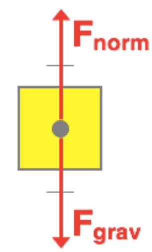


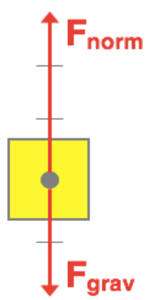


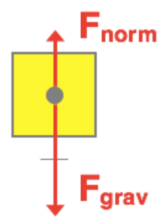


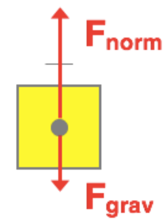


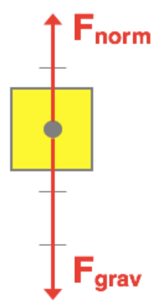
Question 7:
An elevator rider is moving downward at a constant speed. The Force Diagram is shown. What will the Force Diagram look like when this downward-moving rider undergoes a slowing down process? Select a force diagram from the choices provided on the right.

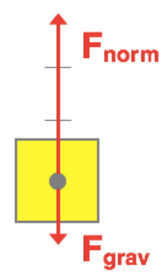




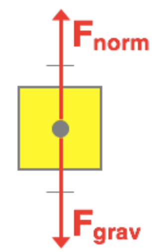


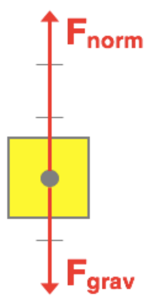


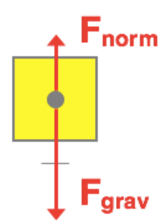


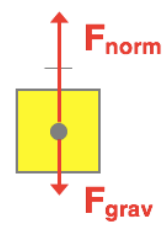


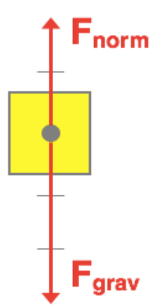
Question 8:
An elevator rider is at rest on the top floor. The Force Diagram is shown. What will the Force Diagram look like when this rider is in a state of moving downward with an increasing speed? Select a force diagram from the choices provided on the right.

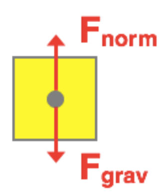






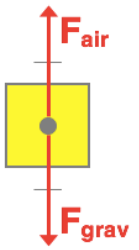


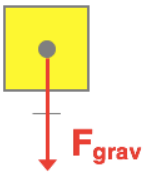


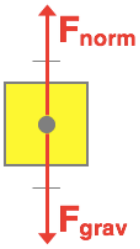


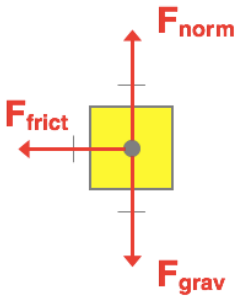
Question 9:

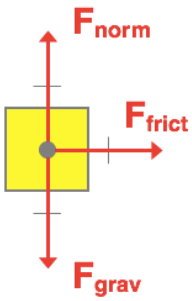
A disk at moving leftward at a constant speed across a 'no-friction' air table. The Force Diagram is shown. What will the Force Diagram look like if the air is turned off and this leftward-moving disk is in the state of slowing down? Select a force diagram from the choices provided on the right.

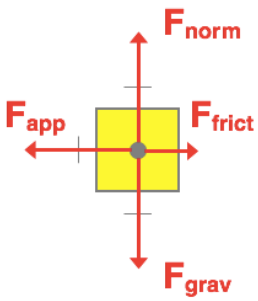






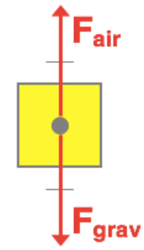


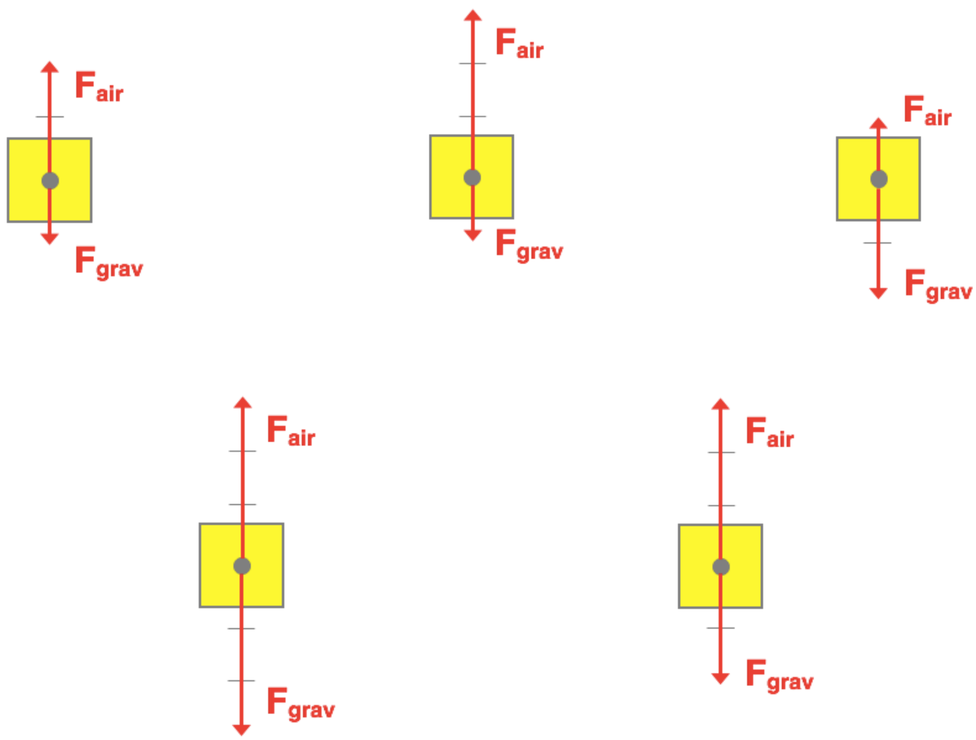




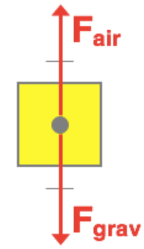
Question 10:

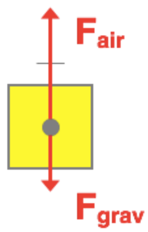
A skydiver is falling downward at a constant speed. The Force Diagram is shown. What will the Force Diagram look like if she reorients herself and is in a state of slowing down? Select a force diagram from the choices provided on the right.

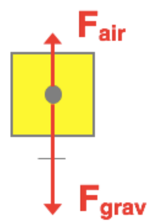


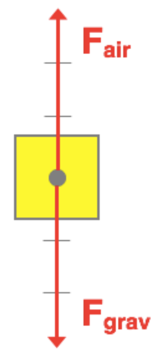


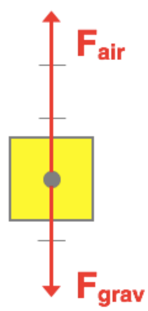
Question 11:
A skydiver is falling downward at a constant speed. The Force Diagram is shown. What will the Force Diagram look like if she reorients herself and is in a state of speeding up? Select a force diagram from the choices provided on the right.

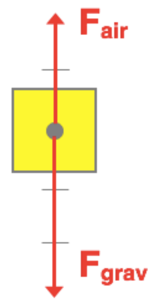












Question 12:

A worker is applying a force on a large crate to move it leftward at a constant speed. The Force Diagram is shown. What will the Force Diagram look like if the worker stops pushing and the leftward-moving crate is in a state of slowing down? Select a force diagram from the choices provided on the right.