

Hint for Problem 5 of Set 3:

Identify all forces for each block:

Top-block: gravity, normal by bottom block, applied force, static friction by bottom block.

Bottom –block: gravity, normal force by the floor, normal force by the top block, kinetic friction by the floor, static friction by the top block.

Draw your free body diagrams (one for each block).

From your free body diagram, you see that the net force on the bottom block is the resultant of two force of friction, which make the acceleration for bottom block. Since two blocks are stick together and top block does not slip, so top block should have the same acceleration as the bottom one.

Next page you may see the free body diagrams. But, first draw the free-body diagrams yourself.

Free Body Diagrams:

