

Question

Three differently filled bottles are standing on a table. Which bottle stands longest if the table is tilted? a) the empty one, b) the half full one or c) the full one?

Answer

Answer b) the half full one.

The critical point is the position of the center of mass.

The center of mass of the empty and the full bottle is approximately at half height. The half full bottle has a center of mass that is lower, as it can easily be seen. Hence, this bottle stands longest.

For the same reason a flower vase stands more stable if some pebbles are filled in.