

Friction and Rolling Soccer Balls

Scenario: Two identical soccer balls are rolling over different surfaces. One ball is rolling over a concrete surface, and the other ball is rolling over a grassy surface.

Draw all of the forces acting on the soccer balls.



Courtesy of Hector Mireles

Questions

1. What forces are acting on each ball?

2. What is the direction of each force? Why did you choose this direction?

3. Describe the strengths of the forces acting on each ball? Compare the strengths of the forces.

4. Which ball has a greater net force acting on it? Why?

5. Which ball has a greater change in motion (acceleration)? Why?
