Homework 2 Answers Ryan Stettnisch

3)

a) Time.deltaTime tells developers how long each frame took to execute. When we multiply something by Time.deltaTime, it makes our game “frame rate independent.”
b) Time.deltaTime may have been used in the game for the race car’s driving mechanics and ensuring that the movement is frame rate independent. Using Time.deltaTime with car movement, such as speed and acceleration, ensures the game is smooth across different machines. If it weren’t used, the game would behave slower on lower-end machines and faster on higher-end machines.

5)

a) The mesh renderer is the component that is responsible for rendering a 3D mesh in the scene, which allows it to be visible to the camera.
b) The box collider component defines a box-shaped collision area around the GameObject in Unity. It provides collision detection and physical interactions for GameObjects.
c) The Input.GetAxis method returns the value of a virtual axis, which can be used to detect input from devices. Axis names of Horizontal and Vertical are used to map input controls to actions in your game.
d) The rigid body component allows a GameObject to act under the control of Unity’s Physics engine, enabling realistic physical behaviors like gravity, collision, and forces.