

### Relation to Football:

Defensive quarterbacks have to determine the appropriate distance to give a receiver so that they are in position to make a move on a thrown ball to either intercept it or to deflect it from the receiver. The principles of mathematics and science are very important in the offensive and defensive schemes during football games. Offensive coaches develop a variety of plays such as slant route, go routes, and curl routes which rely on the player's speed, a specific distance from the line of scrimmage, and timing in order to be successful.

- A **slant route** is a short pass at  $45^\circ$  angle that allows an offensive player to catch a pass and use his speed to run across the field in a diagonal pattern.
- A **curl route** is a play in which the offensive player runs an approximate 10 yards in distance and turns  $180^\circ$  angle to catch a pass.
- The **go route** (also known as a *fade*) is a vertical route in which the receiver attempts to use his speed to outrun the defensive back.

