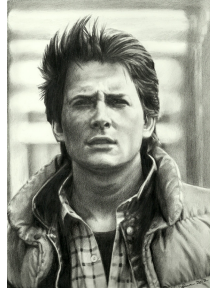
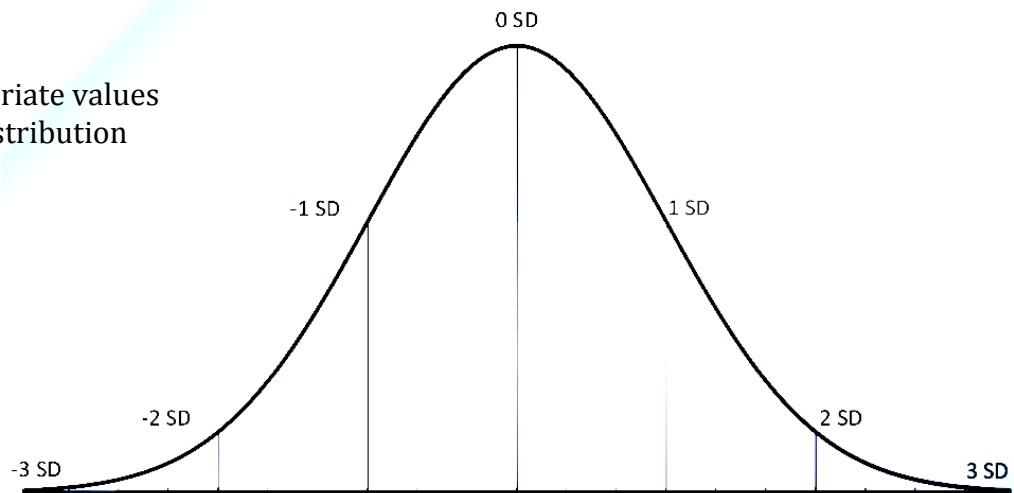


Lesson 2.2: Will Marty Make it Back to the Future?



After accelerating for 20 seconds, a DeLorean sports car has a wide range of speeds that it can achieve, depending on traction. The distribution of speed follows an approximately Normal distribution with a mean of 80 mph and a standard deviation of 7.7 mph.

1. Label the appropriate values on the normal distribution



2. What percentage of the runs will give the DeLorean a speed greater than 87.7 mph?
3. What percentage of the runs will give the DeLorean a speed between 64.6 mph and 87.7 mph?
4. What percentage of the runs will give the DeLorean a speed less than 64.6 mph?
5. What percentage of the runs will give the DeLorean a speed less than 68.45 mph?

6. What percentage of the runs will give the Delorean a speed greater than 85 mph? Show work.

7. What percentage of the runs will give the Delorean a speed between 70 and 95 mph? Show work.

8. Marty wants his last run to be in the top 15% of all the possible speeds. What speed does he need to achieve to be in the top 15%?

Lesson 2.2 – Density Curves and Normal Distributions

Big Ideas:

Check Your Understanding:

When professional golfer Jordan Spieth hits his driver, the distance the ball travels can be modeled by a Normal distribution with mean 304 yards and standard deviation 8 yards.

1. On a specific hole, Jordan would need to hit the ball at least 290 yards to have a clear second shot that avoids a large group of trees. What percent of Spieth's drives travel at least 290 yards?

2. On another golf hole, Spieth has the opportunity to drive the ball onto the green if he hits the ball a distance in the top 10% of all his drives. How far does the ball have to go?

Homework: Pg 139 – 153, 55, 57, 59, 61, 63