Chapter 7-8 Quiz

NAME\_\_\_\_\_\_\_\_\_\_\_Opare Asihene\_\_\_\_\_\_\_\_\_DATE\_\_\_\_\_4/11/20\_\_\_\_\_\_\_\_\_ SCORE \_\_\_\_\_/22 pts

***Directions: Show all work. You do not have to draw a normal curve, but doing so may help you.***

Find the indicated value:

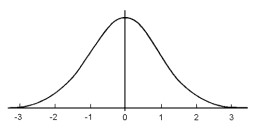
1. z.05 = \_\_\_-1.645\_\_\_\_ (2 pts)
2. Given that IQ scores are normally distributed with a mean of 100 and standard deviation of 15, find the **probability** of randomly selecting someone with an IQ **between** 100and 120. (5 pts)

Z = 120-100 /15 = 1.33

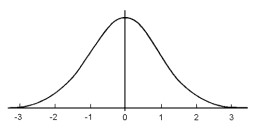
Look up z = 1.33 in the z-table 🡪 0.9082

100-.9082= 9.18 9.18% or 90.82%

There is a 9.18% probability that randomly selecting someone with an IQ between 100 and 120

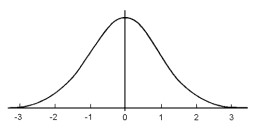


1. Given that IQ scores are normally distributed with a mean of 100 and standard deviation of 15, find the **number of IQ points** that separate the bottom 25% and the top 25%. (5 pts)

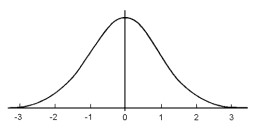


Chapter 7-8 Quiz

NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MATH153 Sect.\_\_\_\_\_\_\_\_ SCORE \_\_\_\_\_/22 pts ***Directions: Show all work. You do not have to draw a normal curve, but doing so may help you.***

1. M&M plain candies have a normally distributed weight with a mean of 0.8565 g and a standard deviation of 0.0518 g. If 465 M&M plain candies are randomly selected, find the probability that their mean weight is **at least** 0.8535 g each. (5 pts)

Probability =



1. Assume that 75% of the U.S. driving population have been ticketed for at least one speeding violation. If you choose 200 people to sample, what is the probability that less than 80% of these people have a speeding ticket on their driving record? (5 pts)

n = 200 p= .75 q =. 15 p̂ = .80

σ p̂ = 75.15/ 200 0.023717

z = 80-75 / 0.023717 = 2.108192

z table 🡪 0.982484505283742

1-0.982484505283742 = 0.0175

1.75% chance that less than 80% of these people have a speeding ticket on their driving record

Probability =