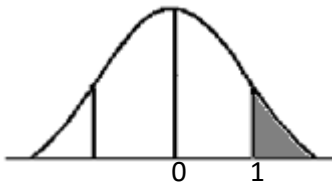


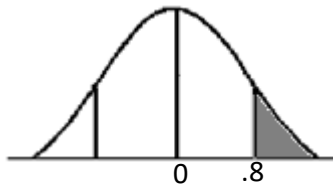
Answer Key: Normal Distributions

- 1.) Outline for the following: $z \rightarrow \text{area}$. Remember that your z Tables provide you with the area below a particular place on the curve. If the problem requires you to find *area above*, subtract the value in the z Table from 100.

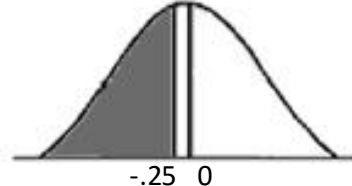
$$p(z > 1.0) = .1587$$



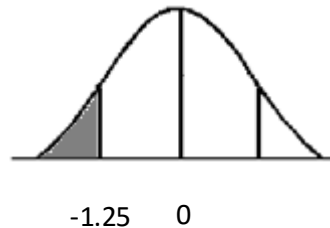
$$p(z > .80) = .2119$$



$$p(z < -.25) = .4013$$

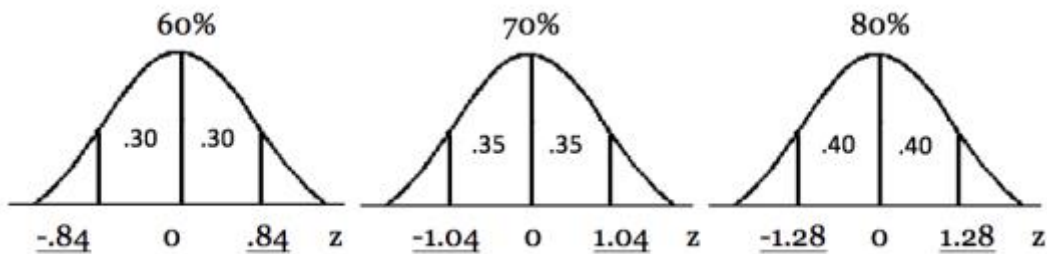


$$p(z < -1.25) = .1056$$

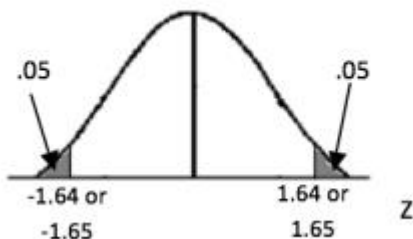


- 2) Your answer

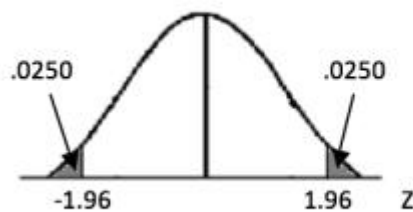
- 3) Outline for the following: $\text{area} \rightarrow z$. Just remember that you will have to get two z scores for each problem.



Deviant 10%



Deviant 5%

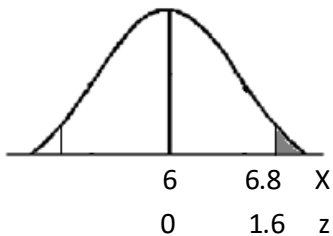


Answer Key: Normal Distributions

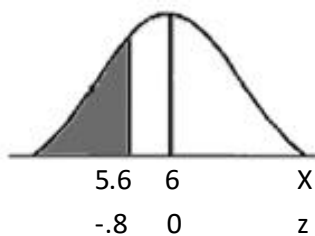
4) Your answer

5) For each of these problems, you are given an x value and then must figure out the correct area, percentile rank or probability.

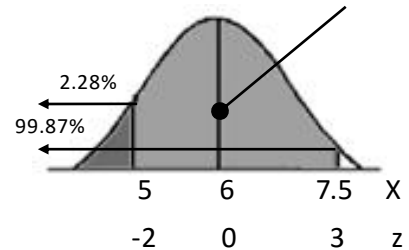
$$p(X > 6.8\text{cm}) = 5.48\%$$



$$X = 5.6\text{cm} \quad 21^{\text{st}} \text{ \%ile}$$



$$p(5\text{cm} < X < 7.5\text{cm}) = .9759$$

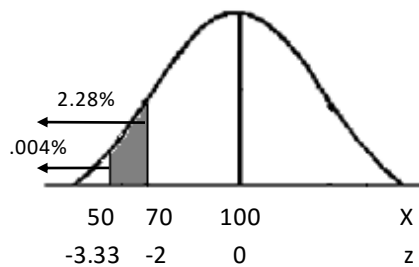


$$z = \frac{5-6}{.5} = -2$$

$$z = \frac{7.5-6}{.5} = 3$$

6.) Your answer

7.) IQ scores of 20 and 35 are associated with z scores of -5.33 and -4.33, respectively. BTW-- Less than .003% of the population have IQs between 20 and 35.



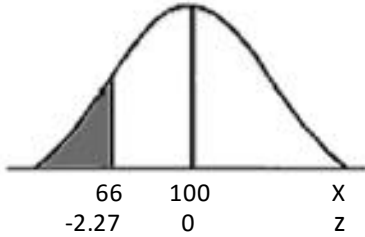
$$z = -3.33$$

$$z = -2$$

$$\begin{array}{c} .0228 \\ \underline{-.0004} \\ .0224 \end{array}$$

2.2% of the population have IQs between 50 and 70.

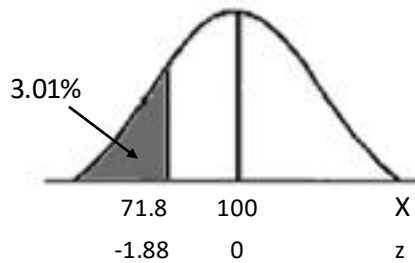
Answer Key: Normal Distributions



Outline for this one is: $X \rightarrow z \rightarrow \text{area} \rightarrow \text{percentile}$

$$z = -2.27$$

A person with an IQ of 66 is in the 1.2nd percentile.



$$X = 100 + (-1.88 \times 15) = 71.8$$

A person with an IQ of 71.8 (3rd percentile) would not be classified as having a mental disability.

8.) Your answer