Normal Probability Distribution Backwards Worksheet

IQ Scores

IQ scores are normally distributed with a mean of 100 and a standard deviation of 15. If you select a person at random, what's then probability the person has an IQ score that is:

Approximate your answers to the nearest thousandths.

1. What IQ score represents the **Top 5%**?
2. What IQ Score represents the **Top 1%**?
3. What IQ Score represents a **Genius (Top 4%**)?
4. What IQ score is used to meet the M.E.N.S.A. requirement **(Top 2%)**?

California Life Expectancy

California residents have a mean life Span of 81.8 years with a standard deviation of 7.2 years. If you select a California resident at random, what's the probability the California resident lives:

Approximate your answers to the nearest thousandths.

5. What lifespan represents the **1st Quartile**?
6. What lifespan represents the **3rd Quartile**?

Height of Women

The height of women is normally distributed with a mean of 63.7 inches and a standard deviation of 2.9 inches. If you select a woman at random, what's the probability a woman will be:

Approximate your answers to the nearest thousandths.

7. What height represents the **Bottom 10%?**
8. What height represents the **Top 10%?**

Height of Men

The height of women is normally distributed with a mean of 68.6 inches and a standard deviation of 2.8 inches. If you select a man at random, what's the probability the man will be:

Approximate your answers to the nearest thousandths.

9. What height represents the **1st Decile**?
10. What height requirement represents the **9th Decile**?

SAT Scores (Scholastic Aptitude Test)

SAT scores are normally distributed with a mean of 1026 and a standard deviation of 209. What **percent** of students who take the SAT will score:

Approximate your answers to the nearest thousandths.

11. What SAT Score represents the **8th Decile**?
12. What SAT Score represents the **2nd Decile**?
13. What SAT Score represents the **Top 1%?**
14. What SAT Score represents the **1st Quartile**?