Stats #2 Assignment Key

Scenario	# of SDs Mean	Rank
The number of red loops in a box of Tutti-Frutti-O's is normally distributed with mean of 800 loops and standard deviation 120. Tony bought a new box, opened it, and counted 1243 red loops. (It didn't really matter because all the colors are the same flavor anyway.)	3.7	3
The weight of house cats is normally distributed with a mean of 10 pounds and standard deviation 2.1 pounds. My cat, Big Boy, weighs 6 pounds.	1.9	5
The lifetime of a battery is normally distributed with a mean life of 40 hours and a standard deviation of 1.2 hours. I just bought a battery and it died after just 20 hours	16.7	1
The amount that a human fingernail grows in a year is normally distributed with a mean length of 3.5 cm and a standard deviation of 0.63 cm. My neighbor's thumbnail grew all year without breaking and it is 4.6 cm long with stars and stripes painted on it.	1.7	6
My little brother was digging in the garden and found a giant earthworm that was 35 cm long. The length of earthworms is normally distributed with a mean length of 14 cm and a standard deviation of 5.3 cm.	4	2
The mean length of a human pregnancy is 268 days with a standard deviation of 16 days. My aunt just had a premature baby delivered after only 245 days	1.4	7
IQ scores for young adults on a famous IQ test are distributed normally with a mean of 110 and a standard deviation of 25. I'm pretty smart and my IQ is 135.	1	8
The army measured head sizes among male soldiers and found that the distribution is pretty close to normal with a mean of 22.8 inches and standard deviation of 1.1 inches. Little Joe was almost too small to get into the army because his head size was only 20.6 inches.	2	4

2. a. 35 minutes
   b. 16%
   c. 2.35%
   d. 97.5%

3.
   a. 84%
   b. 16%
   c. 7'3"

4.
   a. 97.5%
   b. 49.85%

5.
   a. 12 minutes
   b. 16%
6. Answers vary.
7. Answers vary.
8. 219 people

Adapted from a Mathematics Vision Project Task