Q1. What is the mean birth weight for babies of non-smoking mothers?

**3.51**

Q2. What is the mean birth weight for babies of smoking mothers?

**3.13**

Q3. What is the mean head circumference for babies of non-smoking mothers?

**35.05**

Q4. What is the mean gestational age at birth for babies of smoking mothers?

**38.95**

Q5. What is the maximum head circumference for babies of non-smoking mothers?

**39**

Q6. What is the minimum gestational age at birth for babies of smoking mothers?

**33**

Q7. Based on the dataset you have, out of the two, which one would be a better bet:

* **Pregnancy period in smoking mothers is shorter**
* Pregnancy period in non-smoking mothers is shorter

Q8. Justify the above choice in a few words.

**The mean gestational age at birth of babies born to smoking mothers is 38.95, compared with 39.45 for non-smoking mothers. Similarly, the median is 39 for smoking mothers and 40 for non-smoking mothers. This suggests that the pregnancy period is shorter for smoking mothers than for non-smoking mothers.**

Q9. What is the baby birth weight range for babies of smoking mothers?

**(1.92, 4.57)**

Q10. In your own words describe what the value of the above range for baby's birthweight tells us about smoking versus non-smoking mothers?

**When I calculate the same range for non-smoking mothers, I find (2.65, 4.55). This means that the minimum weight for smoking mothers is smaller than for non-smoking mothers. In other words, smoking can considerably reduce a child's birth weight.**

Q11. Are head circumference data for babies of smoking mothers normally distributed?

**Yes**

Q12. What is the significance value for the above on the Shapiro-Wilk test?

**0.37**

Q13. What is the standard score (Z-score) for head circumference of 35.05 (X=35.05) in non-smoking mothers?

**0.00**

Q14. How are birth weight data of non-smoking mothers skewed?

**Mode = 2.65 – Median = 3.39 – Mean = 3.51**

**Mode < Median < Mean**

**They are positively skewed.**

Q15. Are birth weight data for babies of smoking mothers normally distributed?

**Yes**

Q16. What is the significance value for the above on the Shapiro-Wilk test?

**0.94**

Q17. Based on the dataset you have, how confident can you be in saying that a baby's birth weight will be +/- 1 standard deviation from the mean?

**68.27%**

Q18. Based on the dataset you have, what is the probability that the birth weight for a baby of a smoking mother will be less than 4.2 kg?

**0.9545**

Q19. Are data for length of baby of non-smoking mothers normally distributed?

**Yes**

Q20. What is the significance value for the above on the Shapiro-Wilk test?

**0.054**

Q21. What is the standard score for the length of a baby of 48.5cm for non-smoking mothers?

**-1.01**

Q22. Based on the dataset you have, what is the probability that the length of baby for non-smoking mothers will be more than 55 cm?

**0.836**