

Q1. What is the mean birth weight for babies of non-smoking mothers?  
= 3.51 kg

Q2. What is the mean birth weight for babies of smoking mothers?  
= 3.13 kg

Q3. What is the mean head circumference for babies of non-smoking mothers?  
= 35.05 cm

Q4. What is the mean gestational age at birth for babies of smoking mothers?  
= 38.95 (weeks)

Q5. What is the maximum head circumference for babies of non-smoking mothers?  
= 39 cm

Q6. What is the minimum gestational age at birth for babies of smoking mothers?  
= 33 (weeks)

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

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

Q8. Justify the above choice in a few words.

**-From our data set we can see that for non-smoking mother the maximum gestational age is shorter than smoking mother.**

Q9. What is the baby birth weight range for babies of smoking mothers?  
= 2.65 kg

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?

= For smoking mothers it's 2.65 but in case of non-smoking mothers it's 1.90 so there is Fluctuations .

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

- **Yes, It's normally distributed.**

Q12. What is the significance value for the above on the Shapiro-Wilk test?  
= .372 cm

Q13. What is the standard score (Z-score) for head circumference of 35.05 (X=35.05) in non-smoking mothers?  
= 0.2

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

=0.361 Positively skewed

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

= **Yes, the significance of K-S is 0.2 and S-W is 0.949 (kg)**

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

=0.949

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?

= 0.68268

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?

= 0.95449

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

= **Yes, the significance of K-S is 0.047 and S-W is 0.07**

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

= 0.07

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?

= 0.16354