1. A researcher demonstrated a correlation of **r = 0.60** between teacher attire and student academic performance across 150 grade schools in her state. She concluded that encouraging teachers to be properly attired will increase academic performance. Do you agree or disagree with her conclusion? Why?

2.    Give three real life or business examples of each of the following:

A)     Positively related events. Explain why they are directly related.

B)    Negatively related events. Explain why they are inversely related.

C)  Spuriously related events. Explain why they are spuriously related.

3. Determine whether the data for the following might show a **positive**, **negative** or **no** relationship between variables. Explain your answer.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No | Variables | Positive | Negative | No Relationship | Brief Explanation (OPTIONAL) |
| 1 | Size of household & amount of water bill |  |  |  |  |
| 2 | Size of house & its selling price |  |  |  |  |
| 3 | Crime rate & property value |  |  |  |  |
| 4 | Outside air temperature & amount of heating bill |  |  |  |  |
| 5 | Size of TV screen & the number of channels it receives |  |  |  |  |
| 6 | Cell phone use & brain tumor |  |  |  |  |
| 7 | Size of car engine & miles per gallon |  |  |  |  |
| 8 | Number of songs on a CD & cost of CD |  |  |  |  |
| 9 | Height of a student & his or her GPA |  |  |  |  |
| 10 | Hours worked & earnings |  |  |  |  |
| 11 | Birth month & weight of a baby at birth |  |  |  |  |
| 12 | Age of a car & its value |  |  |  |  |
| 13 | Speed & distance traveled |  |  |  |  |
| 14 | Wearing eye glass & intelligence |  |  |  |  |
| 15 | Number of pens a student has & GPA |  |  |  |  |
| 16 | Advertisement & sales |  |  |  |  |
| 17 | Food intake & body fat |  |  |  |  |
| 18 | Age of a person & healthcare premium |  |  |  |  |
| 19 | Amount of sodium in diet & blood pressure |  |  |  |  |
| 20 | Interest rate & Bond rate |  |  |  |  |
| 21 | Day of the week & weather |  |  |  |  |
| 22 | Ice cream sales and crime during the summer time |  |  |  |  |
| 23 | Height & arm span |  |  |  |  |