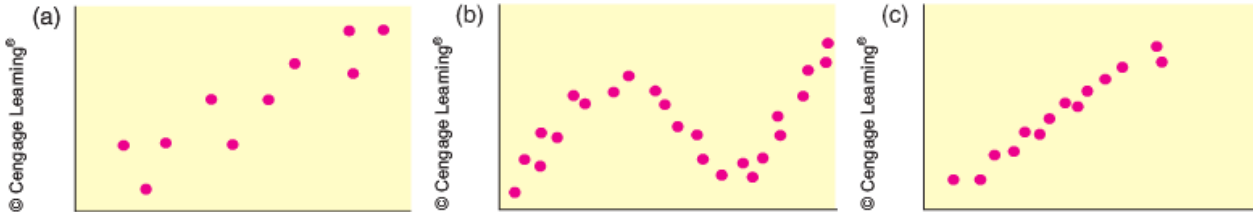
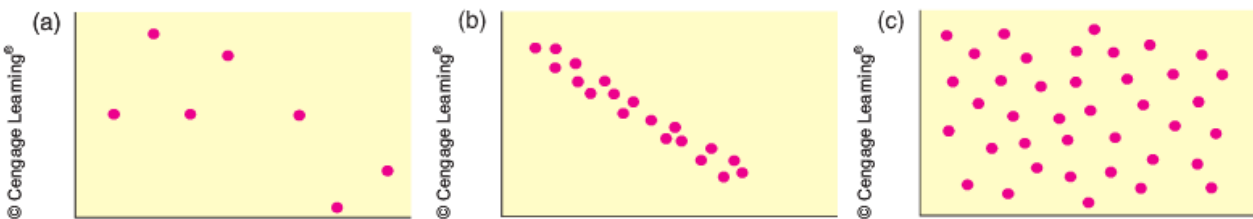


4.1 Class-work

5. **Critical Thinking: Linear Correlation** Look at the following diagrams. Does each diagram show high linear correlation, moderate or low linear correlation, or no linear correlation?



6. **Critical Thinking: Linear Correlation** Look at the following diagrams. Does each diagram show high linear correlation, moderate or low linear correlation, or no linear correlation?



8. **Critical Thinking: Lurking Variables** Over the past decade, there has been a strong positive correlation between teacher salaries and prescription drug costs.
- Do you think paying teachers more causes prescription drugs to cost more? Explain.
 - What lurking variables might be causing the increase in one or both of the variables? Explain.

14. **Health Insurance: Administrative Cost** The following data are based on information from *Domestic Affairs*. Let x be the average number of employees in a group health insurance plan, and let y be the average administrative cost as a percentage of claims.

x	3	7	15	35	75
y	40	35	30	25	18

- Make a scatter diagram and draw the line you think best fits the data.
- Would you say the correlation is low, moderate, or strong? positive or negative?
- Use a calculator to verify that $\sum x = 135$, $\sum x^2 = 7133$, $\sum y = 148$, $\sum y^2 = 4674$, and $\sum xy = 3040$. Compute r . As x increases from 3 to 75, does the value of r imply that y should tend to increase or decrease? Explain.