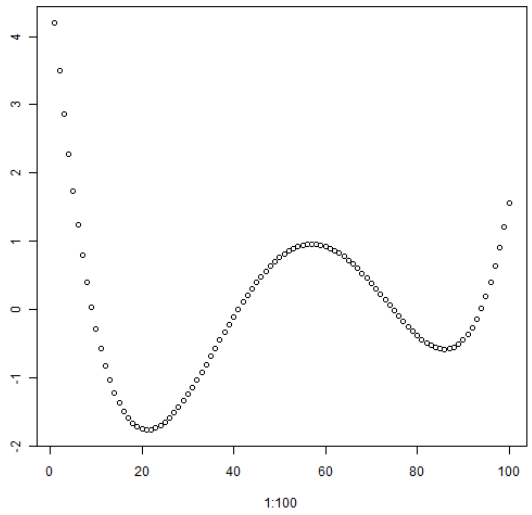
3.3 Curve of Best Fit

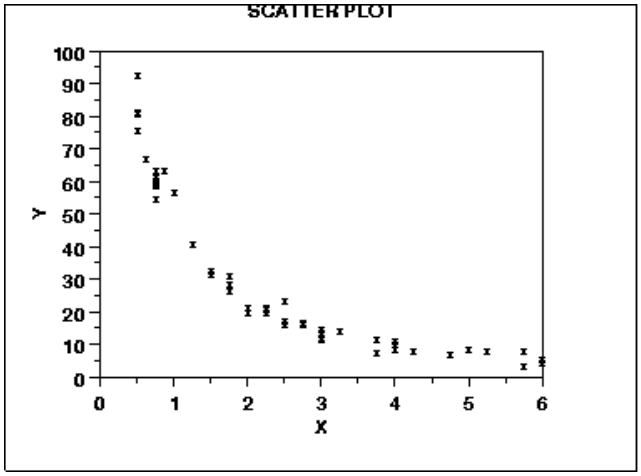


- Does it seem reasonable to draw a LoBF for the relation shown?
- Do the points seem related?

★ This data can be approximated by a curve called the curve of best fit.

To draw a curve of best fit, draw a smooth curve that passes through as many points as possible.

Ex. 1 Draw a curve of best fit for the following scatter plot.

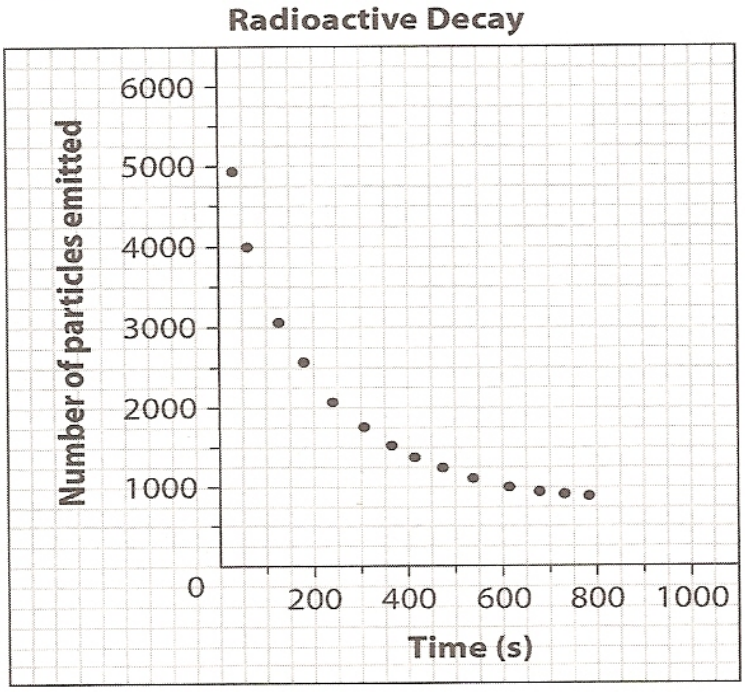


Note

- If the pattern appears to follow a **straight line**, the relation is _____, and **to make predictions**, draw a _____.

- If the pattern appears to follow a **curve**, the relation is _____, and **to make predictions**, draw a _____.

Ex. 2 Radioactive materials decay by emitting particles.
The following scatter plot shows the number of particles a radioactive material emitted over time.



a) Do you see a trend in the data? Explain.

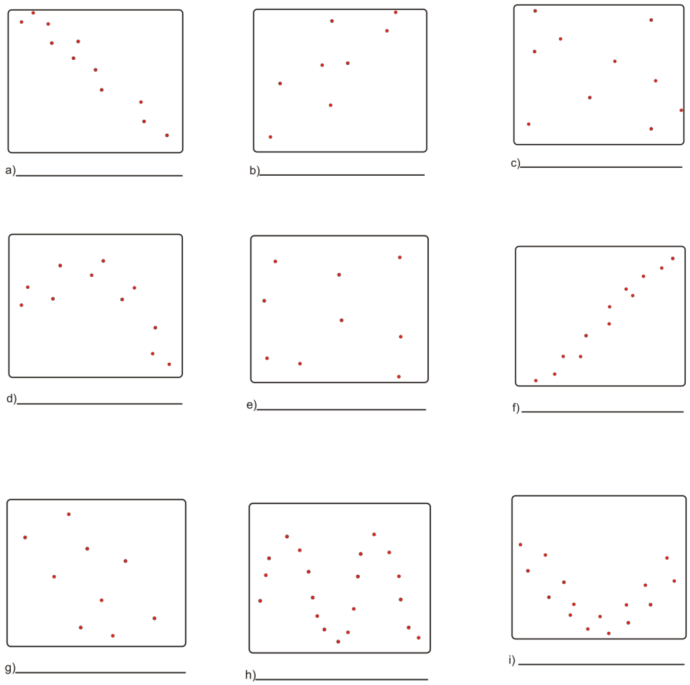
b) Is this relation linear or non-linear?
Should you draw a line or curve of best fit? Explain your choice.

c) How many particles are emitted after 300 seconds? To answer this question we need to use _____.

d) How many particles are emitted after 900 seconds? To answer this question we need to use _____.

3.2.2 Describing Scatter Plots and Lines of Best Fit

Draw a line of best fit for each of the scatter plots that show a linear relationship below. Write two or three key words to describe each relation on the line below the scatter plot. (*~~rises upward to the right, falls downward to the right~~, no relationship, strong, weak, linear, non-linear*) POSITIVE, NEGATIVE



Draw a Scatter Plot that matches the description given:

Strong, falls to the right, linear

Weak, rises upward, non-linear

No Relationship

Attachments

scan0002.pdf