7. What does it mean to use evidence-based reasoning:

- Using data to drive your reasoning behind explanation of scientific phenomenon!

Compare and Contrasting the Patterns

8. Find 2 significant ~~similarities~~ *differences* between linear and quadratic:

A) slope is constant in linear/proportional; not so in quadratic

B) linear: when x doubles, y doubles   quad: when x doubles, y quadruples

9. Find 2 significant ~~differences~~ *similarities* between linear and quadratic:

A) both go through (0,0)

B) both show positive rate of change/slope

10. Find 2 significant differences between linear and inverse:

A) linear: shows positive rate of change   inverse: negative rate of change

B) linear: constant rate of change   inverse: not constant rate of change

11. Find 1 significant similarity and 1 significant difference between quadratic and inverse:

A) Similarity: rate of change in not constant,

B) difference: quadratic - positive growth; inverse - negative growth

12. Rank the ~~three~~ *four* patterns from easiest to reason about to most difficult to reason about:

(east) Hor → Linear → Inverse → Quadratic (hard)

13. Observation – Dani squeezes a partially inflated balloon and tries to make it smaller. She notices that as she decreases the volume the balloon the air pressure inside seems to feel stronger. She asks the question "How does the volume of the balloon affect the pressure inside of the balloon?" See the Desmos graph to the right.
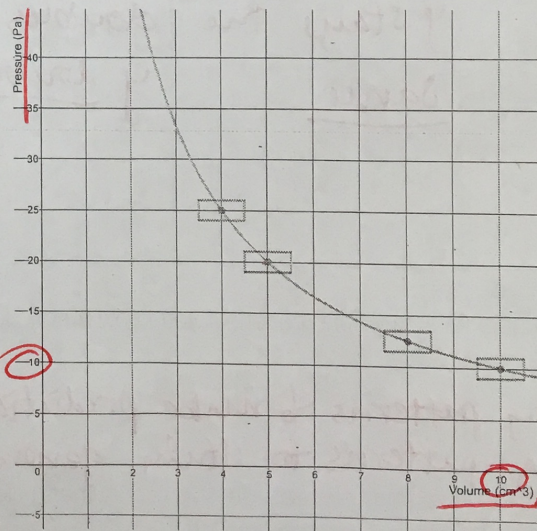

A) Using the graph to the right, determine the pressure at 5cm³

20 Pa

B) Predict what the pressure would be for a volume of 20 cm³.

Inverse - y = a/x -
when x doubles, y halves
when x = 20, y = 5 Pa

20?

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