

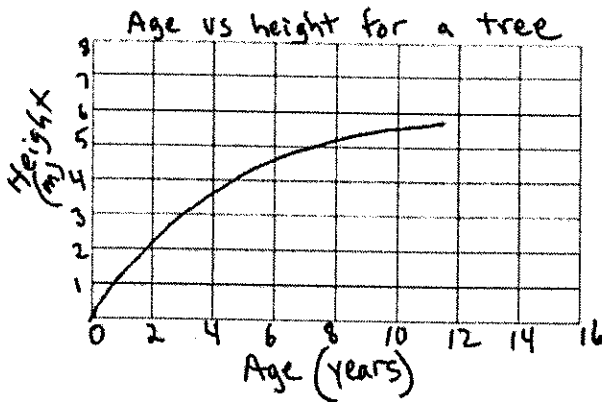
1. Molly kicks a soccer ball three different times. Molly changes the force of her kick each time and uses a device to measure the force. The data she collected is shown in the table.

Force of Kick (N)	Distance Traveled (m)
150	31
200	39
270	47

- a. Identify the independent variable Force of kick
 b. Identify the dependent variable Distance traveled

2. What will probably be the height of the tree when it is 15 years old? 6m

3. What was the height of the tree at 3 years old? 3m



4. What is it called when you predict something from a graph that is outside of the measured data set?

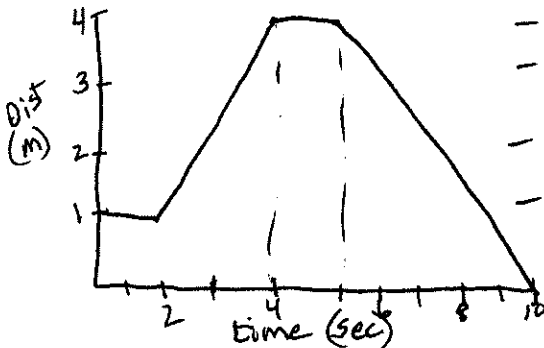
extrapolation

5. What is it called when you predict something from a graph that is inside of the measured data set?

interpolation

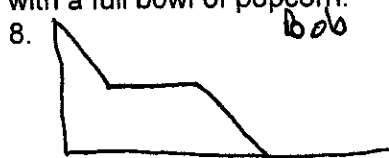
6. Why is interpolation considered to be more reliable than extrapolation?
 Because it is inside the known data where extrapolation is a prediction and extrapolation gets less reliable the farther out you go.

7. Describe the motion of the student that is walking the following graph, like we did in the hall.



- student stood at 1m for 2 sec
- student then walks quickly to a distance of 4m
- student waits at 4m for 1 sec then
- walks all the way to the wall in the next 5 sec.

In these two Popcorn graphs, describe what probably happened during the movie for each person that started with a full bowl of popcorn.



Bob starts eating popcorn but then takes a break and stops but later finishes the bowl.

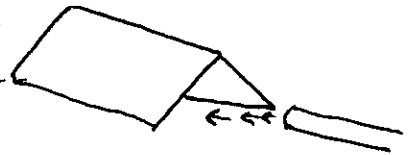


Sal eats and then takes a break. She then gets a refill and finishes the whole bowl.

Note: Be able to draw a proper graph from a data table. This would include a title, labels, units, data points, and curve fitting.

10. What is Bernoulli's Principle? That a fast moving fluid has low pressure associated with it.

11. In the activity where we blow air into the tent made from an index card, exactly why did the tent collapse?
Fast air inside the tent makes low pressure inside the tent. The higher pressure outside the tent pushes down making it collapse.



12. What are three factors that affect friction?

- Roughness/texture
- pressure between the surfaces
- types of materials that are in contact

13. Describe Static Friction. The friction between surfaces that are not moving. static is greater than kinetic friction. ~~static friction~~

14. Why is kinetic friction less than static friction?
static has interlocking parts between the surfaces while kinetic has parts that are more like bouncing across each other.

15. How can friction be reduced?
a. Smooth surfaces b. Reduce pressure
c. change materials d. change to rolling friction
e. add a lubricant

16. What do Bearings actually do to reduce friction?

changes the sliding friction to rolling using rollers or balls

17. Name at least four types of Lubrication

oil, grease, water, lotion, wax

18. What is the equation for acceleration, using velocity and time?

$$a = \frac{V_f - V_o}{\Delta t}$$

19. When dropping an egg, what effect does increasing Δt have on acceleration?

it decreases it.