

1. How many significant digits are in the following measurements?

- a. 1300 m *2*
- b. 3.20 g *3*
- c. 0.00065 km *2*
- d. 20 Fir trees *infinite*
- e. 30 ml *1*
- f. 30. ml *2*
- g. 30.0 ml *3*

2. Define the following terms:

- a. Objective evidence
documents only what happened as exactly as possible
- b. Significant digits
the meaningful digits in meas.
- c. Technology
application of science to meet human needs or solve problems
- d. Engineer
professional — use sci. to ↑
- e. Distance
amt. of space b/tween 2 pts
- f. English ^{meas.} system
used for everyday meas. in U.S.

g. SI

int. syst. of unit

h. Inquiry

3.

process of learning - ask Q's + seek answers

a. Scientific method

↓ begins w/ hypoth. - seeks to prove or change it w/ sc. evidence

b. Deduce

figure stuff out from facts use logical thinking

c. Repeatable

evidence can seen by others + obs get same result

d. Measurement

determination of amt. of something

e. Precision

how close toj. repeated meas. are

f. Accuracy

how close meas. is to accepted / true

g. Resolution

smallest interval that can be meas.

h. Unit

fixed amt of something

i. Prototype

working model of design - can be tested

j. Experiment

sitch. setup to invest. relationships between variables

k. System

group of variables - related

l. Variable

factor that can affect outcome of exp.

m. Experimental variable

you change it

n. Control variable

vars kept the same

o. Trial

each time exp. is tried

p. Hypothesis

possible explanation for observations

q. Theory

a well-supported explanation for phenomenon
evidence gathered over long time

r. Natural law

(theory - tested w/o contradictions
& explains relationship

s. Graph

visual rep. of data

t. Direct relationship between variables

as 1 var. inc., other var. increases

u. Inverse relationship between variables

as 1 var. increases, other decr.

v. Independent variable

var. you think will influence another

w. Dependent variable

var. influenced by ↑

a. Basic SI unit of length

meter

b. Basic SI unit of mass

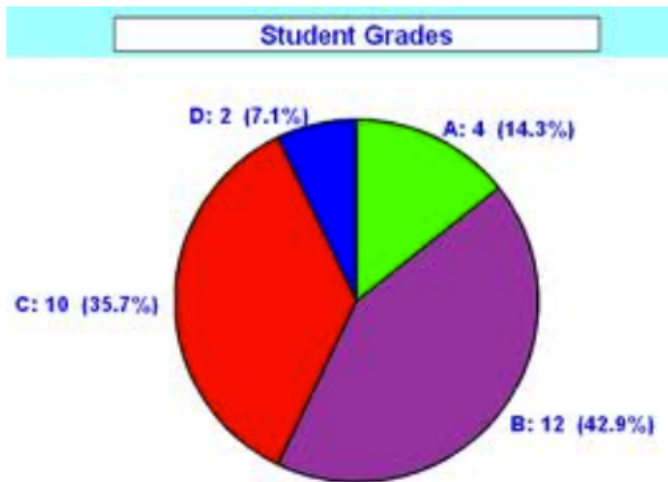
gram

c. Basic SI unit of liquid volume

liter

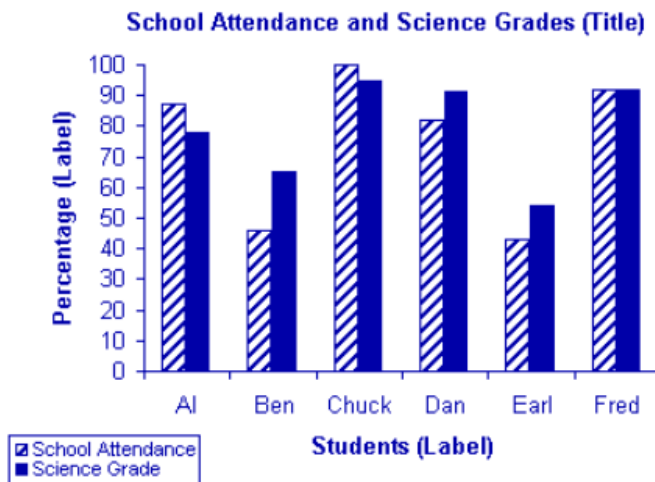
5. What type of graph is illustrated below? What kind of data is shown in this type of graph?

pie chart - how a whole is divided into parts



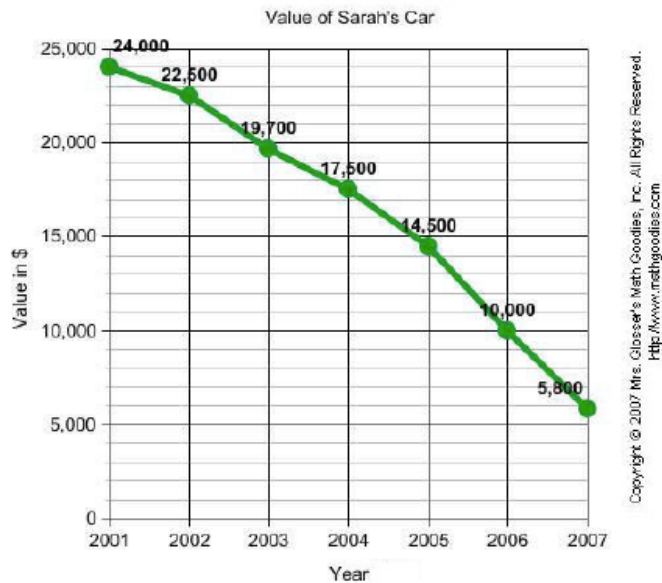
6. What type of graph is illustrated below? What kind of data is shown in this type of graph?

bar graph - shows groups of data



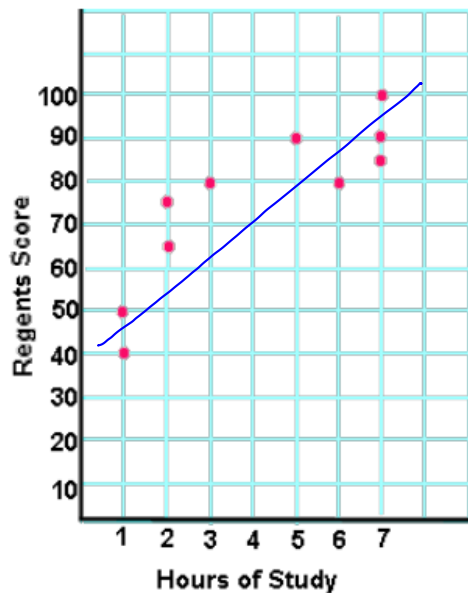
7. What type of graph is illustrated below? What kind of data is shown in this type of graph?

line graph - show how a var. changes over time.



8. What type of graph is illustrated below? What kind of data is shown in this type of graph?

Scatter plot - show if there's a relationship between variables



9. Make the following conversions:

a. 8550 mm = 8.55 m

b. 0.3 cm = 3 mm

c. 9450 g = 9.45 kg

d. 800 mg = 0.8 g

e. 150 mL = 0.15 L

f. 0.00065 km = 650 mm

10. Which is largest? (circle the correct answer)

Millimeter, decimeter, Dekameter, centimeter

11. Are scientific theories unchangeable? Why or why not?

NO - can change if new evidence is found

12. What is the most important tradition in science?

truthful reporting