Last year questions – practice

1. A person uses lenses of Power -0.5 D in his spectacles for the correction of his vision.
    a. Name the defect of vision the person who is suffering from.
    b. List two causes of this defect.
    c. Determine the focal length off the lenses used in spectacles.

2. A student please of candle distances convex lens focus recorded observation in tabular form as given below :

S No.	Distance of plane from the lens centimetre	Distance of the image from the lens
1	-90	+18
2	-60	+20
3	-40	+24
4	-30	+30
5	-24	+40
6	-20	+60
7	-18	+90
8	-12	+120

Analyse the observation table on the basis of your analysis only answer the following questions without doing any calculation

    a. What is the focal length off the phone wax lens used? Give reason justify your answer.
    b. Which one of the sets of observations is not correct and why?
    c. Draw ray diagram to show image formation for any correct set of observation.

3. Answer the following :
    a. State the chemical property in each case on which the following uses of baking soda r based upon :
        i. As an anti – acids
        ii. As a constituent in making baking powder
        iii. in soda acid fire extinguishers
    b. Write chemical equations to show what happens when an acid reacts with a
        i. metal
        ii. base
        iii. carbonate

        Write the name of the man product formed in each case.

4. Give reasons
    a. The sky appears dark to passengers flying at very high altitude.
    b. ‘Danger’ signal lights are red in colour
    c. What is rainbow? We see a rainbow in the sky only after the rainfall. Why?

5. If we want to obtain a virtual and magnified image of an object by using a concave mirror off focal length 18 cm, where should the object be placed? Use mirror formula to determined the object distance for an image of magnification + 2 produced by this mirror to justify your answer .