General math work sheet

Ex: 11.1, class-9(tipu sir)

1. $\frac{2x-y}{x-2y} = \frac{a}{b}$ and $\frac{\sqrt{1+x}+\sqrt{1-x}}{\sqrt{1+x}-\sqrt{1-x}}$ are two expression
   a) Now find the ratio f x and y from the relation given
   b) If x =$\frac{3}{5}$, find the value of 2nd expression
   c) If the value of 2nd expression=p, prove that $p^2 - \frac{2p}{x} + 1$=0
2. If a = $\frac{\sqrt[3]{m+1}+\sqrt[3]{m-1}}{\sqrt[3]{m+1}-\sqrt[3]{m-1}}$
   a) Find:$\frac{a+1}{a-1}$
   b) Prove that $a^3 - 3ma^2 + 3a - m$ =0
   c) If $\frac{bz-cy}{a} = \frac{cx-az}{b} = \frac{ay-bx}{c}$ then prove that,$\frac{x}{a} = \frac{y}{b} = \frac{z}{c}$
3. If $\frac{1}{p} + \frac{1}{q} = \frac{8}{x}$ and $\frac{p^2+q^2}{q^2+r^2} = \frac{(p+q)^2}{(q+r)^2}$
   a) Now find the value of X
   b) Find the value of $\frac{x+4p}{x-4p} + \frac{x+4q}{x-4q}$
   c) From the 2nd equation prove that p, q, r ordered proportional
4. a , b, c are in ordered proportional

a) Now define ordered proportional with an example

b) Prove that ; $\left(\frac{a+b}{b+c}\right)^2 = \frac{a^2+b^2}{b^2+c^2}$

c) If $\frac{a^3+b^3}{a-b+c} = a(a+b)$,then prove that a , b , c are ordered proportionali