

February 2009

Solutions will be provided next month.

1) When I am as old as my father is now, I will be six times as old as my son is now. By then, my son will be two years older than I am now. The sum of my father's age and my age is 94 years. How much older am I than my son?

2) Solve the system of equations.

$$4x = 3y$$

$$x^2 + y^2 + z^2 = 1$$

$$x^2 + y^2 = 25(1 - z)^2$$

3) Let u and v be real numbers. Solve the system of equations for x , y , and z in terms of u and v .

$$vx = uy$$

$$x^2 + y^2 + z^2 = 1$$

$$x^2 + y^2 = (u^2 + v^2)(1 - z)^2$$