

missing idea. If even the hint does not help, he may look at the solution, try to isolate the key idea, put the book aside, and then try to work out the solution.

PROBLEMS

1. A bear, starting from the point P , walked one mile due south. Then he changed direction and walked one mile due east. Then he turned again to the left and walked one mile due north, and arrived exactly at the point P he started from. What was the color of the bear?
2. Bob wants a piece of land, exactly level, which has four boundary lines. Two boundary lines run exactly north-south, the two others exactly east-west, and each boundary line measures exactly 100 feet. Can Bob buy such a piece of land in the U.S.?
3. Bob has 10 pockets and 44 silver dollars. He wants to put his dollars into his pockets so distributed that each pocket contains a different number of dollars. Can he do so?
4. To number the pages of a bulky volume, the printer used 2989 digits. How many pages has the volume?
5. Among Grandfather's papers a bill was found:

72 turkeys \$ _67.9_

The first and last digit of the number that obviously represented the total price of those fowls are replaced here by blanks, for they have faded and are now illegible.

What are the two faded digits and what was the price of one turkey?

6. Given a regular hexagon and a point in its plane. Draw a straight line through the given point that divides the given hexagon into two parts of equal area.
7. Given a square. Find the locus of the points from

which the square (b) of 45° . (Let the same plane. taining the square is seen" from P .) description.

8. Call "axis" points of the surface rotated about this than 0° and less

Find the axes of the axes, find each. Assuming length, compute the axes.

9. In a tetrahedron two opposite edges perpendicular to perpendicular to a points. Express t a and b , and pro

10. The vertex the apex. (a) Let is at the same. Adopting this isosceles pyramid which is the focus

(b) Now let is at the same (the base. Adopt foregoing) prove circumscribed a foot of the pyramid

11. Find x , y equations