large square are equal respectively to twice the area and diagonal of the cuboid. This identity can be applied to the areas of circles and spheres on the line and its segments or to any similar polygons drawn on the same.

Problemists may find many applications to geometry, e.g., "From the corners of an equilateral triangle cut off similar triangles so that half the area remains."

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(Continued from page 164.)

Now if
$$\frac{b^2}{8} - \frac{b}{4} = 1 \quad (b = 1 \pm 3) \quad ,$$

equation (6) has the solutions

$$L(s) = \begin{cases} \cos s \\ \cosh s \end{cases} .$$

Therefore

$$(7) \qquad F(s) = 2 \begin{Bmatrix} \cos s \\ \cosh s \end{Bmatrix} + \frac{b}{2} = 2 \begin{Bmatrix} \cos s \\ \cosh s \end{Bmatrix} + \frac{1 \pm 3}{2} .$$

Equation (5) now gives

$$(8) \qquad u_k = 2 \cosh A2^k + \frac{1 \pm 3}{2}$$

for the hyperbolic cosine alternative in equation (6). Now if A is chosen to be Arccosh $\frac{n_0}{2}$ where n_0 is an odd integer, it is easily shown that the first term of the right number of equation (8) is always an odd integer and hence that u_k is not divisible by 2 with the choice of the positive sign. A similar result holds for n_0 even with the negative sign. Therefore by the theorem, the sequence (b) is relatively prime. The cosine alternative in equation (7) leads to a bounded sequence of integers and therefore is not very interesting.

REFERENCE

1. Hardy, G. H. and Wright, E. M., "An Introduction to the Theory of Numbers", Oxford, 1960.

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