A Simple Proof That the Medians of a Triangle Concur

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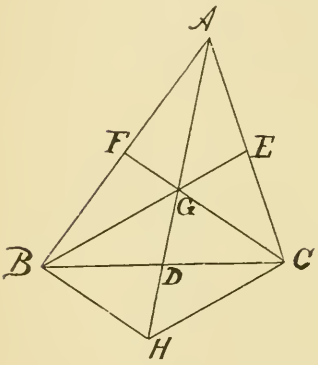
Theorem.—The three medians of a triangle are concurrent.

Demonstration.



Let AD and BE be two of the medians; they will meet in some point G. Join CG and extend it to meet AB in F. Extend AD to H, making DH = DG, and join HB and HC.

Since BC and GH bisect each other, BGCH is a parallelogram. In the triangle ACH, since GE is drawn through E, the middle point of AC and parallel to HC, G is the middle of AH. And in the triangle ABH, since G is the middle of AH and GF is parallel to BH, F is the middle of AB and CGF is the third median, and the theorem is established.

On the Density and Surface Tension of Liquid Air.

C. T. Knipp.

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The variation of the density of liquid air with time was determined. The liquid was contained in a given Dewar bulb. The sinker method was used, and it was assumed that the coefficient of expansion holds at the temperature of liquid air. A curve was platted which indicates that .933 is the density of liquid air when first made.

In the determination of the surface tension two methods were employed—the capillary tube method and the maximum weight method. Owing to the distortion due to the bulb, also to the agitation of the liquid surface, the first was not considered reliable. The second method, however, worked very well. The variation of the surface tension with time of the liquid contained in the above bulb was determined. A curve was platted. From the curve the surface tension of liquid air when first made was found to be 9.4 dynes.