$$x_1=A_{1,\rho}(u, v)$$
$$\equiv\frac{a^2u}{\rho^2(u^2+v^2)}\left[a^2+u^2+v^2+\rho^2-((a^2+\rho^2-u^2-v^2)^2+4a^2(u^2+v^2))^{1/2}\right],$$
$$x_2=A_{2,\rho}(u, v)$$
$$\equiv\frac{a^2v}{\rho^2(u^2+v^2)}\left[a^2+u^2+v^2+\rho^2-((a^2+\rho^2-u^2-v^2)^2+4a^2(u^2+v^2))^{1/2}\right],$$
$$x_3=A_{3,\rho}(u, v)$$
$$\equiv a-\frac{2a^3}{\rho^2}\log\left[\frac{a^2-u^2-v^2+\rho^2+((a^2+\rho^2-u^2-v^2)^2+4a^2(u^2+v^2))^{1/2}}{2a^2}\right].$$

THE OHIO STATE UNIVERSITY AND
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NOTE ON THE DISTRIBUTION OF VALUES OF THE ARITHMETIC FUNCTION $d(m)$[1]

M. KAC

1. **Introduction.** Recently Dr. Erdös and the present writer[2] proved the following theorem:

If $\nu(m)$ denotes the number of different prime divisors of m and $k_n(\omega)$ the number of positive integers $m\leqq n$ for which

$$\nu(m)\leqq \lg\lg n+\omega(2\lg\lg n)^{1/2},$$

then

$$\lim_{n\to\infty}\frac{k_n(\omega)}{n}=\pi^{-1/2}\int_{-\infty}^{\omega}e^{-u^2}du=D(\omega).$$

The purpose of this note is to derive a similar theorem concerning the function $d(m)$ which denotes the number of all different divisors of m (1 and m are included).

In fact we are going to prove the following theorem:

If $r_n(\omega)$ denotes the number of positive integers $m\leqq n$ for which

$$d(m)\leqq 2^{\lg\lg n+\omega(2\lg\lg n)^{1/2}},$$

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[1] Presented to the Society, May 2, 1941.

[2] P. Erdös and M. Kac, *The Gaussian law of errors in the theory of additive number theoretic functions*, American Journal of Mathematics, vol. 62, pp. 738–742.