sides of equal length that meet at equal angles) that has sides of length θ is then

$$S = 4\text{sr/rad} \times \sin^{-1}\tan^2\frac{\theta}{2} \tag{18}$$

and so the solid angle, θ^2, for plane angle θ can be 'defined' as

$$\theta^2 = \lim_{n\to\infty} n^2 \times (\text{the solid angle of a spherical square which side length are } \frac{\theta}{n}) \tag{19}$$

(see Appendix A.3, "Coherent unit system").

By deriving solid angles from plane angle in this way, it is possible to avoid an unbounded increase in units when considering high-dimensional hyperspheres in general. The total solid angle of a k dimensional hypersphere, Ω_k, is [8]

$$\Omega_k = \frac{2\pi^{\frac{k+1}{2}}}{\Gamma(\frac{k+1}{2})}\text{rad}^k \tag{20}$$

In particular,

$\Omega_1 = 2\pi\text{rad}$ (which should be written as Ω_1 and spoken as "cycle".
Also, $10^{-1}_{(12)}\Omega_1 = 30\text{degrees}$, $10^{-2}_{(12)}\Omega_1 = 2.5\text{degrees}$, $10^{-4}_{(12)}\Omega_1 \approx 1$ minute.)

$\Omega_2 = 4\pi\text{rad}^2$ (which shoud be written as Ω_2 and spoken as "turn".)

$\Omega_3 = 2\pi^2\text{rad}^3$

Solid angle becomes paired with impedance and takes on a symmetrical role in deriving 'field' quantities from 'charge' quantities for dimensions of electromagnetic quantities (see Appendix B, "A method of organizing the dimensions of electromagnetic quantities").

3.2.3 Logarithm of an integer

The same dimension is used for quantity of information as is used for logarithmic quantity. The reason is that because information is something that limits disorder, it is a quantity that is measured by the logarithm of the 'number of cases' that are limited by the information. The value k, which may actually be used as the base of logarithmic quantity and quantity of information, is assumed to be $1, z(=\log_2 12), 4, 8, ...$ (generally, except for z, integer powers of 2). $\text{B}_1 = \text{bit}, \text{B}_z = \text{digit}_{(12)}$. A semitone (half-step) of the 12-tone chromatic scale of music is expressed as $0.1_{(12)}\text{B}_1$.

3.2.4 Universal mole

Although there is a natural unit of amount of substance, the inverse of the Avogadro constant, $\text{mol}_n = N_A^{-1}$, the base unit of amount of substance in the International System of Units (SI), mol, is defined using the atomic mass unit, u and the unit of mass, g, as

$$\text{mol} = \frac{\text{g}}{u}N_A^{-1} \tag{21}$$

The quantity that is obtained in the same way in 'the Universal System of Units Standard' is the universal mole,

$$\text{mol}_u = \frac{\text{g}_u}{u}N_A^{-1} \tag{22}$$

The dimensionless quantity $\frac{\text{g}_u}{u}$ is essentially extremely close to $10^{20}_{(12)}$, [9] and with some degree of arbitrariness, may also be strictly $10^{20}_{(12)}$.

[9] That is to say, also, to a certain extent, close to $2^{72}_{(12)}$. $\log(\text{mol}_u/\text{mol}_n) = 72.057694_{(12)}\text{B}_1$.