

(A) EARTH'S TERRESTRIAL AREA




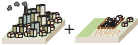
radius of Earth = $r \approx f \times 10^3 \text{ km}$

surface area of Earth = $A_{\text{Earth}} \approx 4\pi r^2 \approx f \times 10^8 \text{ km}^2$

terrestrial fraction = $\Phi_{\text{land}} \approx 0.3 \approx \frac{1}{f}$

terrestrial land area = $\Phi_{\text{land}} A_{\text{land}} \approx \frac{1}{f} \times f \times 10^8 \text{ km}^2$
 $\approx 10^8 \text{ km}^2$

(B) THE TERRA NUMBER

$$Te = \frac{\text{urban and rural land area}}{\text{Earth's terrestrial land area}} = \frac{\text{urban and rural land area}}{\text{Earth's terrestrial land area}} \approx \frac{f \times 10^7 \text{ km}^2}{10^8 \text{ km}^2} \approx 0.3$$


The diagram for the Terra Number equation includes two small illustrations. The first, above the numerator, shows a 3D block representing land area, divided into a cityscape with buildings and smokestacks (urban) and a field with a tractor (rural). The second, below the denominator, is a small globe of the Earth.