

1. Using the Stefan-Boltzmann Constant (σ) of: $(5.67 \times 10^{-8} \text{ W/m}^2 \cdot \text{K}^4)$ find the amount of *energy emitted from the sun* with a solar constant for a sun temperature of: $T = 5,777 \text{ K}$.

$$(\sigma) (T_{\text{Sun}})^4$$

2. Find the *mean* distance from the Sun to Mercury.

Perihelion: 46,001,009, 000 m

Aphelion: 69,817,445,000 m

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3. Find the solar constant for planet Mercury:

$$\frac{(\text{radius Sun})^2}{(\text{Radius}_{\text{Sun to Mercury}})^2} \times (\text{energy emitted from the sun})$$

4. Find the *mean* distance from the Sun to Mars.

Perihelion: 206,655,215,000 m

Aphelion: 249,232,432,000 m

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5. Find the solar constant for planet Mars:

$$\frac{(\text{radius Sun})^2}{(\text{Radius}_{\text{Sun to Mars}})^2} \times (\text{energy emitted from the sun})$$