

**11.32. Solve:** The power of the solar collector is the solar energy collected divided by time. The intensity of the solar energy striking the earth is the power divided by area. We have

$$P = \frac{\Delta E}{\Delta t} = \frac{150 \times 10^6 \text{ J}}{3600 \text{ s}} = 41,667 \text{ W} \quad \text{and} \quad \text{intensity} = 1000 \frac{\text{W}}{\text{m}^2}$$

$$\Rightarrow \text{Area of solar collector} = \frac{41,667 \text{ W}}{1000 \text{ W/m}^2} = 41.7 \text{ m}^2$$