Answer on question #61014, Physics / Electric Circuits

Question A PV panel that produces a power of 60W when directly facing. the Sun is now tilted 30 degrees away from this angle. The power output is now approximately:
select one:a.35w b.30w c.69w d.120w e.52w

Solution The power of incident radiation depends on angle as:

$$P = P_0 \cos \theta$$

where P_0 is power when directly facing the Sun and θ is tilt angle. Hence,

$$P = 60 \cdot \cos 30° = 60 \cdot \sqrt{3}/2 \approx 52 \, W$$

Answer is e. 52 W.