

A heat engine has a thermal efficiency of 20%. It runs 2 revolutions per second and delivers 80 W. For each cycle find the heat discharged to the cold reservoir.

$$\varepsilon = \frac{W}{|Q_H|} = \frac{W}{|Q_L| + W}$$

$$\varepsilon |Q_L| + \varepsilon W = W$$

$$|Q_L| = \frac{1 - \varepsilon}{\varepsilon} W$$

$$= \frac{1 - 0.2}{0.2} 40$$

$$= 160 \text{ J}$$

| 04 Sep | 11 Sep | 18 Sep | 25 Sep | 2 Oct | 9 Oct | 23 Oct | 30 Oct | 6 Nov | 13 Nov | 20 Nov | 27 Nov | 4 Dec | 11 Dec | 18 Dec |
|---|--------|--------|--------|-------|-------|--------|--------|-------|--------|--------|--------|-------------|--------|--------|
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| Solutions of the quizzes can be found on the webpage: http://faculty.kfupm.edu.sa/phys/aljalal/phys102.htm | | | | | | | | | | | | | | |
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