

## Answer on Question #71227, Physics / Mechanics | Relativity

A car travelling at a constant speed of 20ms<sup>-1</sup> overcomes a constant frictional resistance of 300N. What is the horse power of the engine. (Take 1h.p=3/4kw)

### Solution

$$P = \frac{W}{t} = \frac{F \times d}{t} = F \times v, \text{ where}$$

P – power, W – work, t – time, d – distance, v – velocity.

$$P = 300 \times 20 = 6000 \text{ W} = 6 \text{ kW}$$

$$\text{Hp} = \frac{6 \times 4}{3} = 8 \text{ h.p.}$$

### Answer

The horse power of the engine is **8 h.p.**

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