PHY232 (Pratt) Quiz #1

A light bulb dissipates **75 W** of power when a potential difference of **125 V** is placed across it.

1. The current flowing through the bulb is

        (a)   0.45 A
        (b)   0.60 A ← correct answer. $I = P/\Delta V = 75W/125V$
        (c)   0.75 A
        (d)   0.90 A
        (e)   1.05 A

2. The resistance of the bulb is

        (a) $2.1 \times 10^2 \ \Omega$ ← correct answer. R = 125V/0.60A
        (b) $3.2 \times 10^2 \ \Omega$
        (c) $4.3 \times 10^2 \ \Omega$
        (d) $5.4 \times 10^2 \ \Omega$
        (e) $6.5 \times 10^2 \ \Omega$

Could also use $P = (\Delta V)^2/R$. Thus $R = (\Delta V)^2/P = 2.1 \times 10^2 \ \Omega$