A 1350-kg vehicle moves with a velocity of 19.0 m/s. calculate the power required to reduce the velocity to 4.90 m/s in 20.0 s. Please explain your answer.

Required power to reduce the velocity:

$$P = \frac{W}{t}$$

Work to slow down vehicle:

$$W = \Delta E_k = \frac{mv_1^2}{2} - \frac{mv_2^2}{2} = \frac{m(v_1^2 - v_2^2)}{2}$$

Finally:

$$P = \frac{m(v_1^2 - v_2^2)}{2t}$$

$$P = \frac{1350kg * ((19.0m/s)^2 - (4.9m/s)^2)}{2 * 20s} = 11373.4W$$

Answer: $P = 11373.4W$