

Work, energy, power and Thermal decomposition

Memorandum

Name: _____

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Memorandum

1. $W = F\Delta x$
 $= 10\,000 \times 15$
 $= 150\,000 \text{ J}$
 $= 150 \text{ kJ}$
2. $F_g = mg$
 $= 65 \times 10$
 $= 650 \text{ N}$
3. $F_g = mg$
 $= 20 \times 10$
 $= 200 \text{ N}$
4. Larger
5. a. $W = F\Delta x$
 $= 35 \times 2$
 $= 70 \text{ J}$

b. $P = \frac{W}{t}$
 $= \frac{70}{5}$
 $= 14 \text{ J.s}^{-1}$
6. $W = F\Delta x$
 $= mg\Delta x$
 $= 4 \times 10 \times 1.5$
 $= 60 \text{ J}$
7. $F_g = mg$
 $= 90 \times 10$
 $= 900 \text{ N}$
8. $8 \text{ min} = 8 \times 60 \text{ s} = 480 \text{ s}$

 $P = \frac{W}{t}$
 $= \frac{5400}{480}$
 $= 11,25 \text{ J.s}^{-1}$
9. $1500 \text{ mm} = 1.5 \text{ m}$

 $F_g = mg$
 $= 20 \times 10$
 $= 200$

$$\begin{aligned}W &= F\Delta x \\&= 200 \times 1.5 \\&= 300 \text{ J}\end{aligned}$$

10.