

Physics 112

Wednesday, June 8/16

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1. Exam Review
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Physics 112 - Exam Review

Work

$$W = Fd$$

$F \rightarrow$ individual / single

$$F \parallel d$$

if \uparrow / \downarrow over

$\text{acc} \rightarrow$ single force

$F = mg$
(const. vel)

$F = ma$

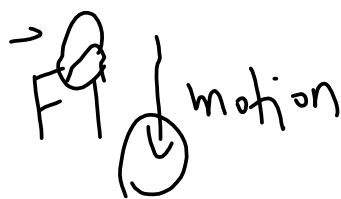
3 cases: $W = vT$ (mc)

① $d = 0$

② $F = 0$

③ $F \perp d$ or motion

Positive vs. Negative Work (mc)



Neg. work:



Pos. work:

Physics 112 - Exam Review

Types of Energy and Work-Energy Theorems

Types of Energy

Kinetic

$$E_k = \frac{1}{2}mv^2$$

$v_i \rightarrow v_f$

$E_{ki} \quad E_{kf}$

$W = \Delta E_k$

Potential

gravitational

$$E_g = mgh$$

x ref. level

$h_i \rightarrow h_f$

$E_{gi} \quad E_{gf}$

$W = \Delta E_g$

elastic

$$E_e = \frac{1}{2}kx^2$$

$F = kx$

$P = Fv$

~~$P = \frac{\Delta E_k}{t}$~~

$\textcircled{VF} \frac{d^v}{t^v}$

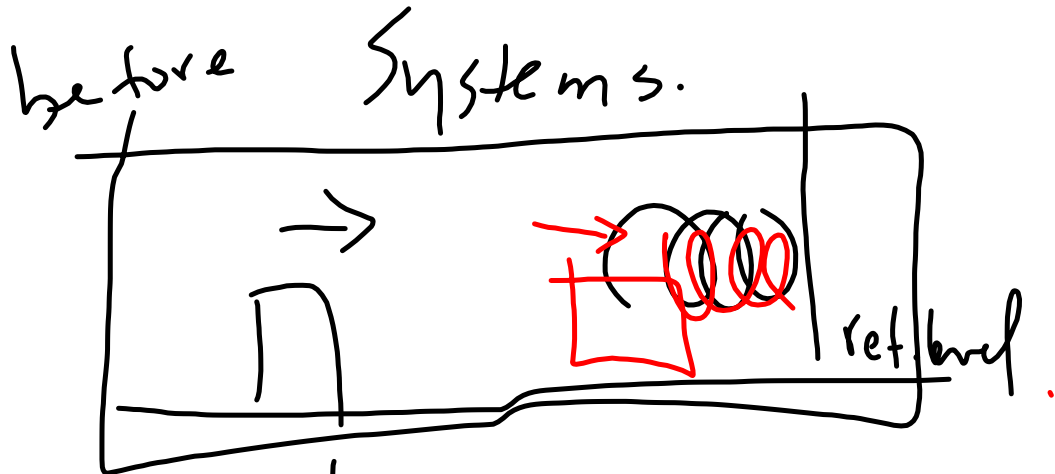
$W = \Delta E_k$

$F_d = E_{kf} - E_{ki}$

$F_d = \frac{1}{2}mv_f^2 - E_{ki}$

Physics 112 - Exam Review

Conservation of Energy



$$\left[\begin{array}{ccc} v_i & h_i = 0 & x_i = 0 \\ v_f & h_f = 0 & x_f = ? \end{array} \right] \quad (3)$$

$$\textcircled{E_{ki}} + \cancel{E_{gi}} + \cancel{E_{ei}} = \textcircled{E_{kf}} + \cancel{E_{gf}} + \textcircled{E_{ef}}$$

$$\frac{1}{2} m v_i^2 = \frac{1}{2} m v_f^2 + \frac{1}{2} k x_f^2$$


$$F = kx$$

$$W = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2$$

$$W = \frac{1}{2} m (v_f^2 - v_i^2)$$

Science 122

Wednesday, June 8/16

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1. Assignment - Electrochemistry
 2. Exam Review
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Science 10

Wednesday, June 8/16

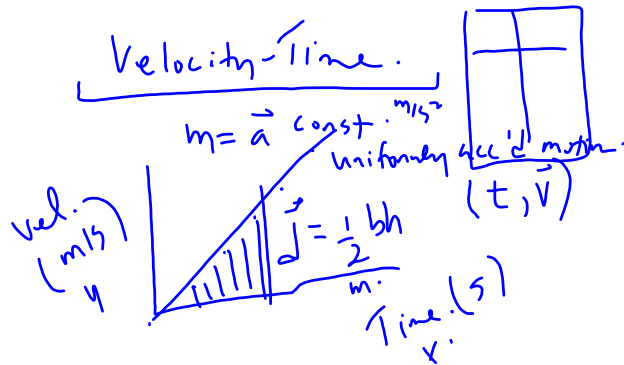
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1. Article - Risks Feared in Bioengineered Insects
- 4 Days Late
2. Return Tomorrow - Assignment - Ecology
3. Exam Review

Science 10 - Exam Review

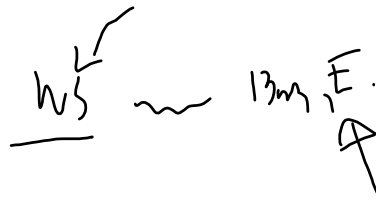
Physics



Word Problems.

List variables:

$\vec{v} = \text{dir } 10 \text{ m/s, } 5$
 $0 \text{ } 10 \text{ m/s}$

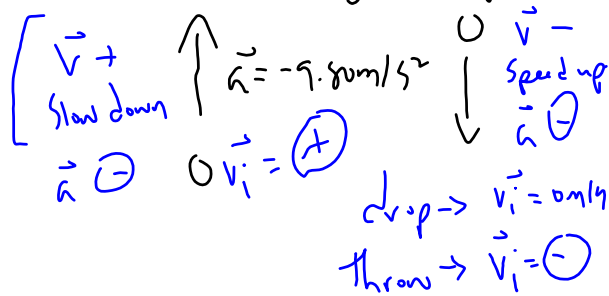


$\vec{v} = \frac{\Delta \vec{d}}{t}$
 $\Delta \vec{d} = \vec{v}t$
 $\Delta \vec{d} = (13m)$
 $\Delta \vec{d} = +13m$
 $\uparrow \uparrow$
 $5s \text{ unit}$

$\vec{v}_f = \vec{v}_i + \vec{a}t$

$\vec{v}_f - \vec{a}t = \vec{v}_i$
 $\vec{a}t = \vec{v}_f - \vec{v}_i$

* freely falling body:



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1. Worksheet - Textbook: Page 719, C15 - PP #27-31 (S. Circuits)
Textbook: Page 724, C15 - PP#32-35 (P. Circuits)

Textbook: Page 728, PP #36-37 } (C. Circuits)
Textbook: Page 749, PFU #33-34 }

2. Exam Review - Multiple Choice
Practice Exam
 3. Quiz - Complex Circuit
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