This Physics 11 Comfort Blanket belongs to:_____(Not water resistant)

Kinematics

$\overrightarrow{v_{avg}} = \frac{\Delta \vec{d}}{\Delta t}$ $\overrightarrow{a_{avg}} = \frac{\Delta \vec{v}}{\Delta t}$ $\vec{d} = \left(\frac{\overrightarrow{v_f}+\overrightarrow{v_i}}{2}\right)\Delta t$ $\vec{d} = \overrightarrow{v_i}t + {}^1/_2\,\vec{a}t^2$ $\overrightarrow{v_f^2} = \overrightarrow{v_i^2} + 2\vec{a}\vec{d}$

$\overrightarrow{v_f} = \overrightarrow{v_i} + \vec{a}t$ Note: $\vec{a}$ = g for projectile motion

Dynamics

$\overrightarrow{F_g} = m\vec{g}$ $\overrightarrow{F_{net}} = m\vec{a}$ $\overrightarrow{F_f} = \mu\overrightarrow{F_N}$ $\sum F_{x/y} = 0$

Wave Motion

$v = f\lambda$ $T = \frac{1}{f}$ $f = f_o\left(\frac{v_w+v_r}{v_w-v_s}\right)$

Work Power Energy

$W = Fd$ $E_p = mg\Delta h$ $E_k = \frac{1}{2}mv^2$ $P = \frac{W}{\Delta t}$ $Q = E_H = mc\Delta T$ $E_e = Pt$

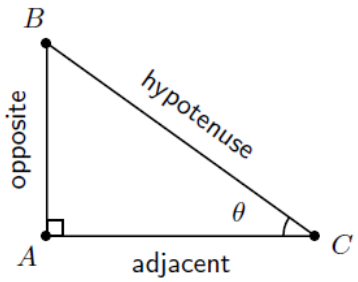
$W = \Delta E$ $Q = H_f = mh_f$ $Q = H_v = mh_v$ $Efficiency = \frac{W_{out}}{W_{in}}\ x\ 100\% = \frac{P_{out}}{P_{in}}\ x\ 100\%$

Electric Circuits

$V = IR$ $I = \frac{Q}{\Delta t}$ $\frac{1}{R} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \cdots$ $P = VI$ $P = I^2R$ $P = \frac{V^2}{R}$ $V_{Term} = \varepsilon - Ir$

PREFIX	SYMBOL	MULTIPLIER	EXPONENT FORM
exa	E	1, 000, 000, 000, 000, 000, 000	10^{18}
peta	P	1, 000, 000, 000, 000, 000	10^{15}
tera	T	1, 000, 000, 000, 000	10^{12}
giga	G	1, 000, 000, 000	10^{9}
mega	M	1, 000, 000	10^{6}
kilo	k	1, 000	10^{3}
hecto	h	100	10^{2}
deca	da	10	10^{1}
Basic Unit	Basic Unit	1	10^{0}
deci	d	0.1	10^{-1}
centi	c	0.01	10^{-2}
milli	m	0. 001	10^{-3}
micro	μ	0. 000, 001	10^{-6}
nano	n	0. 000, 000, 001	10^{-9}
pico	p	0. 000, 000, 000, 001	10^{-12}
femto	f	0. 000, 000, 000, 000, 001	10^{-15}
atto	a	0. 000, 000, 000, 000, 000, 001	10^{-18}

90° Triangle Geometry



$Sin\ \theta = \frac{Opposite}{Hypotenuse}$

$Cos\ \theta = \frac{Adjacent}{Hypotenuse}$

$Tan\ \theta = \frac{Opposite}{Adjacent}$

$a^2 + b^2 = c^2$

Constants:

Gravitational Acceleration at Earth's surface…… $\vec{g} = -9.81\frac{m}{s^2}$

Speed of light in a vacuum……$c = 3.00\ x\ 10^8\frac{m}{s}$

Speed of sound @ room Temp……$v = 343\frac{m}{s}$

Elementary charge……$e = \pm 1.60\ x\ 10^{-19}C$

If, $ax^2 + bx + c = 0$ then,

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Closed-Closed Pipes

Harmonic	Length
1	$\frac{1}{2}\lambda$= L
2	λ= L
3	$\frac{3}{2}\lambda$= L

Open-Open Pipes

Harmonic	Length
1	$\frac{1}{2}\lambda$= L
2	λ= L
3	$\frac{3}{2}\lambda$= L

Open-Closed Pipes

Harmonic	Length
1	$\frac{1}{4}\lambda$= L
3	$\frac{3}{4}\lambda$= L
5	$\frac{5}{4}\lambda$= L