NOTES: Moments

HOW TO USE A WRENCH:

(a) ![Wrench Image]
(b) ![Wrench Image]
(c) ![Wrench Image]

ONLY THE PART OF THE FORCE THAT IS ___ TO THE WRENCH IS USEFUL

AND SO THE USEFUL QUANTITY IS

NO, PICK YOUR FAVORITE WRENCH:

(a) ![Wrench Image]
(b) ![Wrench Image]
(c) ![Wrench Image]

WHICH WAY TIGHTENS BOLT? WHICH WAY LOOSENS IT?

___ & ___ ARE IMPORTANT.

SOUNDS LIKE A ___.
**Formal Definition**

- **Point O**

- **Direction** is ____________ to $\vec{F}$ and $\vec{F}$ using ____________.

- **Or use**

- **Most useful in** ____________

**Properties:**

- $\vec{A} \times \vec{B} = \vec{B} \times \vec{A}$
- $\vec{A} \times \vec{B} = \vec{B} \times \vec{A}$
- **If** $\vec{B} = \vec{B}_1 + \vec{B}_2$
  
  $\vec{A} \times \vec{B} = \vec{A} \times (\vec{B}_1 + \vec{B}_2)$
CONSIDER THE MOMENT ABOUT 0 DUE TO FORCE $\vec{F}$.

WHAT IS $|\vec{M}_0|$ = ？

NOW FIND $|\vec{r}_2 \times \vec{F}|$.

$|\vec{r}| \sin \theta = |\vec{r}_2| \sin \theta_2 =$ __________.

COOL THING NUMBER 1:

COOL THING NUMBER 2: INFORMAL DEFINITION OF A MOMENT.