

#17

SECTION 12.4 NOTES:

• UNIVERSAL FORCES: 4 MAJOR FORCES THAT CONTROL THE UNIVERSE

- ELECTROMAGNETISM
 - ELECTRICITY
 - MAGNETISM
- STRONG NUCLEAR
 - HOLDS PROTON & NEUTRONS TOGETHER IN THE NUCLEUS
- WEAK NUCLEAR
 - BETA DECAY
- GRAVITY
 - ACTS BETWEEN ANY 2 OBJECTS w/ MASS

- STRING THEORY - TRIES TO TIE THESE ALL TOGETHER

- CENTRIPETAL FORCE - THE CENTER DIRECTED FORCE THAT ORBITING OBJECTS HAVE TOWARDS WHAT THEY ARE CIRCLING

• MOON ORBITING AROUND EARTH

TYPES OF MOTION:

1-DIMENSIONAL - A CAR DRIVING STRAIGHT ON A FLAT ROAD

2-DIMENSIONAL - VERTICAL (y) ! HORIZONTAL (x) - HITTING A GOLF BALL w/ NO SIDE WIND.

3-DIMENSIONAL - x, y, z - HITTING A GOLF BALL w/ SIDE WIND

PERIODIC/CIRCULAR - REPEATING IN CYCLES - BIKE TIRE - ORBITS OF EARTH, MOON