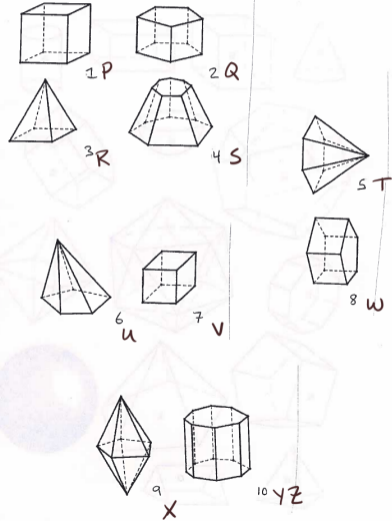
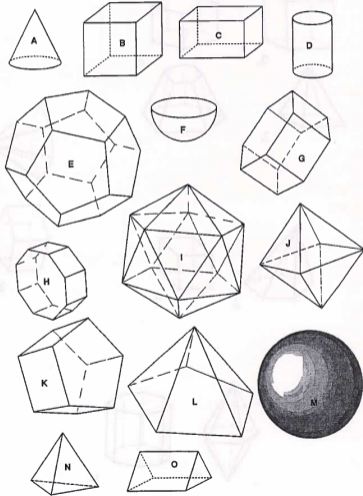


# Welcome to Math 2001!

Some inspiration:

- “If I had an hour to solve a problem I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.” – Albert Einstein
- “Any time scientists disagree, it’s because we have insufficient data.” – Neil deGrasse Tyson.
- “From where we stand the rain seems random. If we could stand somewhere else, we would see the order in it.” – Tony Hillerman, Coyote Waits
- “I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail.” – Abraham Maslow
- “It is better to solve one problem five ways than to solve five problems one way.” – George Polya
- “There ain’t no rules around here! We’re trying to accomplish something!” – Thomas Edison

# Polyhedra

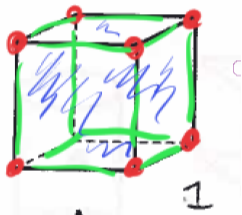


# The challenge

$$V = 8$$

$$E = 12$$

$$F = 6$$



1. The challenge today is to make and prove interesting conjectures about the relationships between vertices, edges and faces.
2. Begin by spelling your name; for each letter, find the corresponding polyhedron and count vertices, edges, faces.

# Polyhedra

$V=8$   
 $E=12$   
 $F=6$



$V=10$   
 $E=15$   
 $F=7$



$V=5$   
 $E=8$   
 $F=5$



$V=14$   
 $E=21$   
 $F=9$



$V=6$   
 $E=10$   
 $F=6$



$V=8$   
 $E=12$   
 $F=6$



$V=7$   
 $E=12$   
 $F=7$



$V=10$   
 $E=15$   
 $F=7$



$V=7$   
 $E=15$   
 $F=10$



$V=16$   
 $E=24$   
 $F=10$



$V=8$   
 $E=12$   
 $F=6$



$V=8$   
 $E=12$   
 $F=6$

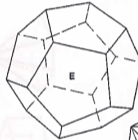


$V=?$   
 $E=?$   
 $F=?$



$V=1?$   
 $E=1?$   
 $F=2?$

$V=20$   
 $E=30$   
 $F=12$



$V=?$   
 $E=12$   
 $F=2?$



$V=12$   
 $E=18$   
 $F=8$



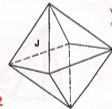
$V=16$   
 $E=24$   
 $F=10$



$V=12$   
 $E=30$   
 $F=20$



$V=6$   
 $E=12$   
 $F=16$



$V=10$   
 $E=15$   
 $F=7$



$V=12$   
 $E=30$   
 $F=20$



$V=?$   
 $E=?$   
 $F=?$



$V=4$   
 $E=6$   
 $F=4$



$V=6$   
 $E=10$   
 $F=6$



$V=6$   
 $E=9$   
 $F=5$