PRE-CALC & TRIG

Day 59

Bell Work:

If a, b, and c are positive integers such that $a^b = x$ and $c^b = y$, then $xy = ?$

F. ac^b

G. ac^{2b}

H. $(ac)^b$

J. $(ac)^{2b}$

K. $(ac)^{b^2}$

Bridge Project Day 4

Your group should be finalizing bridge builds, and begin to write/type up formal reports.

Ideally we are testing bridges at end of this class, but if we have to push it back a day we can.

Objective

- To build a bridge that covers the required gap, holds the most weight, and follows your groups blueprints and measurements.
- Document your groups process for a summative paper/write up.

Bridge Project

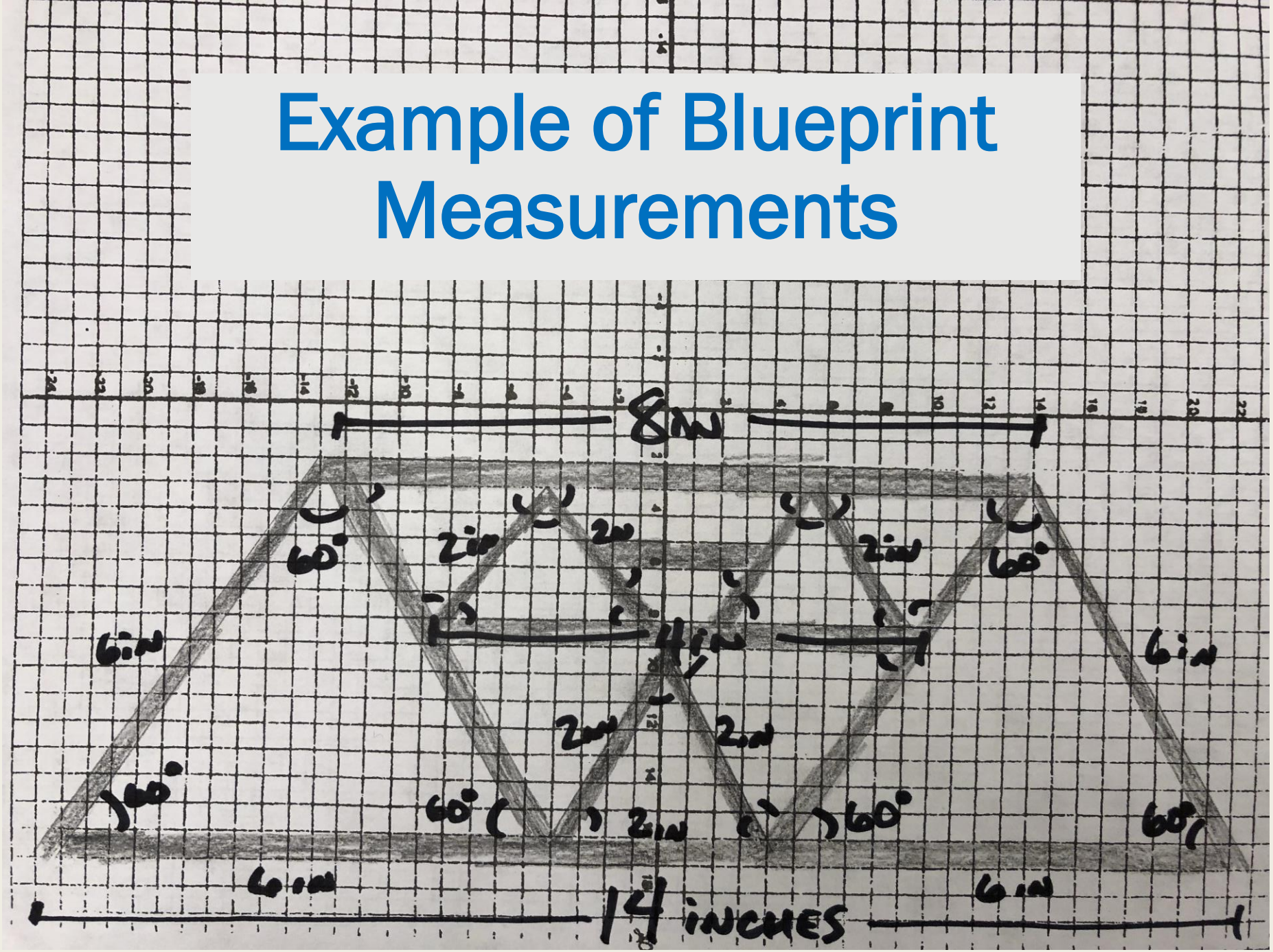
- You'll be in groups of 3 – 4
- This project will involve some research, drafting, constructing, and testing
  - *Pick your groups wisely*

Overview

- You will need blueprints for the side view of your bridge
  - *Include both length measurements, and angle measurements.*

- Additional consideration given if you map out a blue print for the top/bottom and front/back

Example of Blueprint Measurements



Bridge Requirements

- The bridge must span a gap of 14 inches (it can be longer if desired)
- The bridge must allow a ‘car’ with a width of 3 – 4 inches to drive over it
- The bridge must have a hole with a diameter of 0.5 inches in the center to attach the bucket
- Only use the allowed materials (outlined on next slide)

Materials Allowed

- Less than or equal to 200 popsicle sticks
- Less than or equal to 2 rubber bands
- Less than or equal to 4 index cards
- Elmer’s Glue (provided)
- Graph Paper for blue prints is encouraged

Schedule

Day 1:

- *Research & Design Bridges. Assign Roles. Get Angle & Side Measurements. Begin Build*

Day 2:

- *Continue Building & Finding Angle and Side Measurements if needed.*

Day 3:

Final Build Day. Finalize builds and mathematics

Day 4:

Test Bridges.

Finish write-ups

Grades

- Formative:
  - *Turn in blueprints. Clearly defined roles. Build completed on time. Appropriate use of class time.*

- Summative:
  - *Build was true to scale.*
    Weight supported.
    Formal Write – Up

Formal Write – Up

- Daily Accomplishments/plans stated.
- Clearly defined roles within the group
- Summarize patterns within the length and angles used in building the bridge.
- Defend why you built the bridge the way that you did (cite any sources used to help with research)
- Attach blueprints