

Good morning: warm up

Write the equation of a line passing through $(4, -2)$ that is perpendicular to $3x + 2y = 10$.

$$\underline{-3x} \quad \underline{-2y}$$

$$2y = 10 - 3x$$

$$y = -\frac{3}{2}x + 5$$

⊥
w/ slope
3

$$(x_1, y_1)$$

⊥
Point-slope

$$y - y_1 = m(x - x_1)$$

$$y - -2 = \frac{2}{3}(x - 4)$$

$$y + 2 = \frac{2}{3}(x - 4)$$

Reminders:

- retakes in DS
- assessment Monday

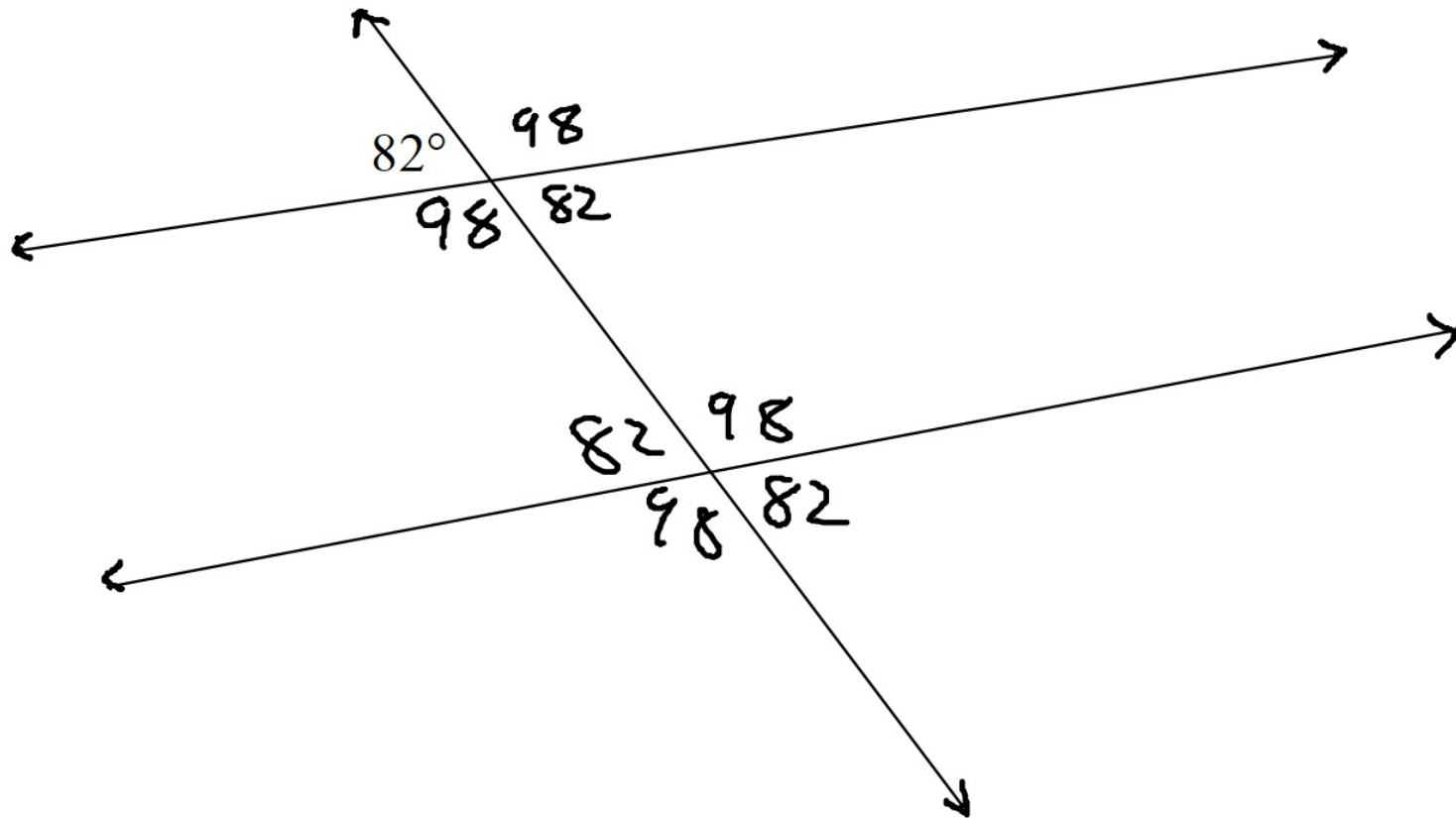
Project Wrap up:

on the index card, answer:

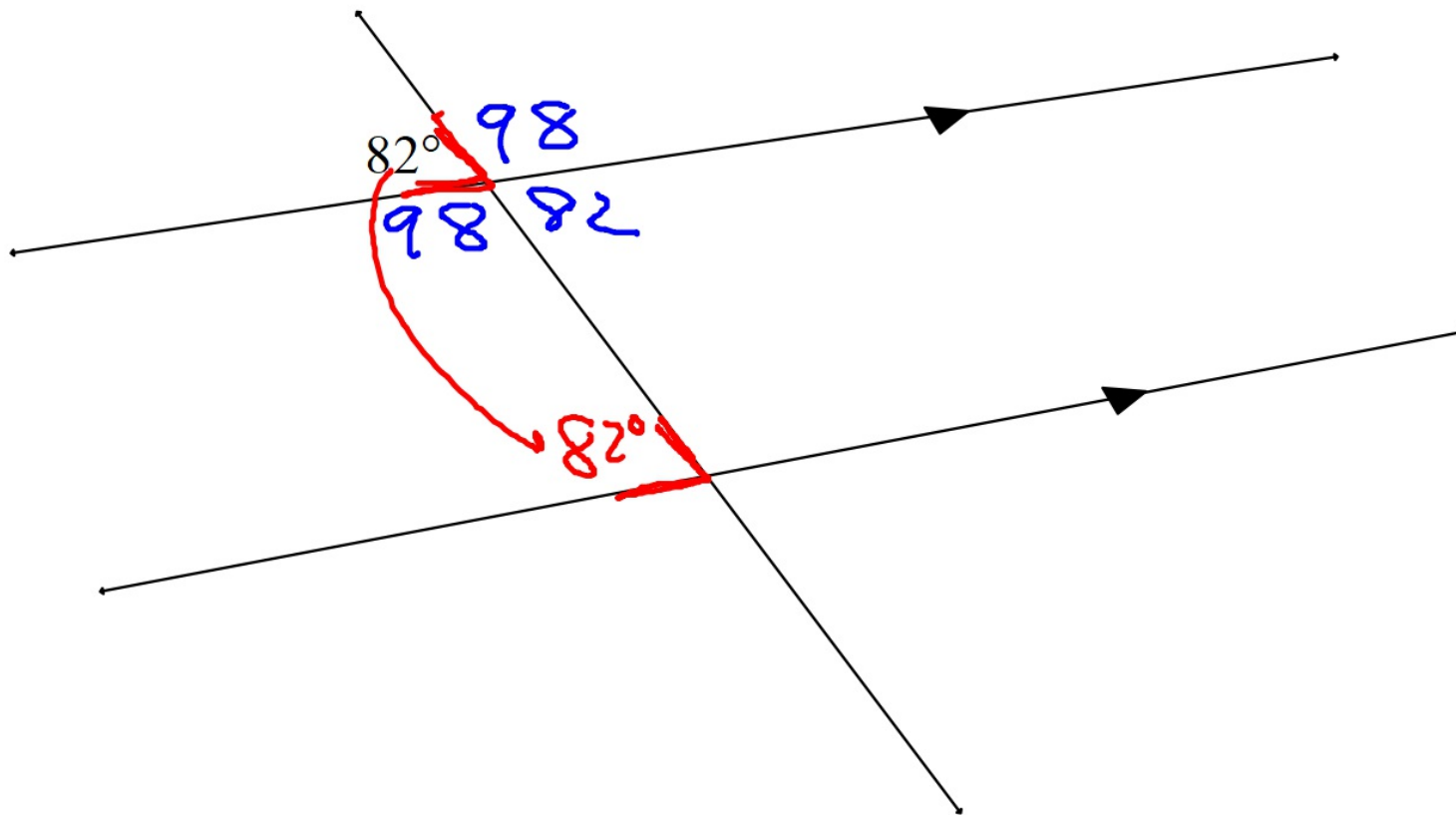
1. What is your name?
2. List out the steps you took to complete this project
3. What was the hardest part of the project?
4. How can Mr Mohyuddin improve this project in the future?
5. What do you intend to do with your stamp once they get printed

Find all the angle measures you can.

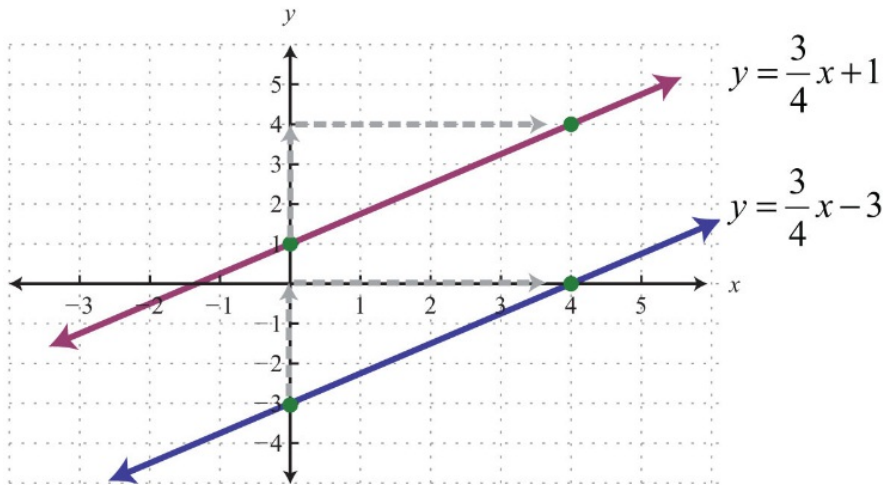
NOTES



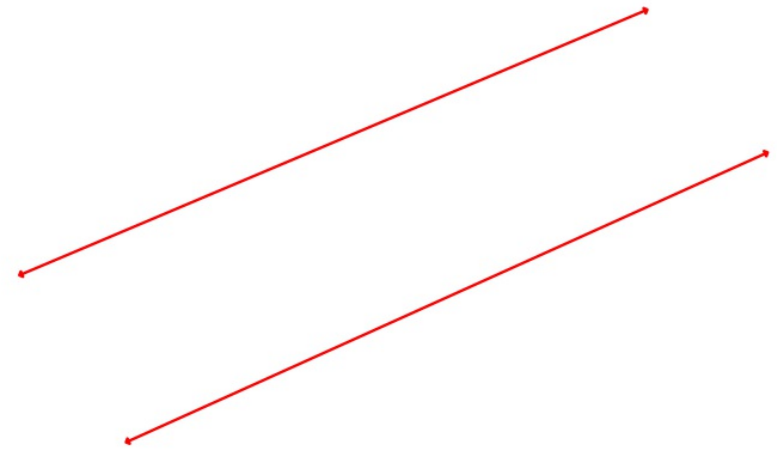
Find all the angle measures you can.



Will these lines ever cross?



Will these??



We need a systematic way to test claims for validity and be able to prove assertions using sound, reasonable logic to make sense of the physical world.

Some basic terms:

conjecture: an educated guess that needs to be proven

axiom/postulate: a basic assumption

theorem: a proven mathematical statement, arrived at by deduction
(often in If-Then form)

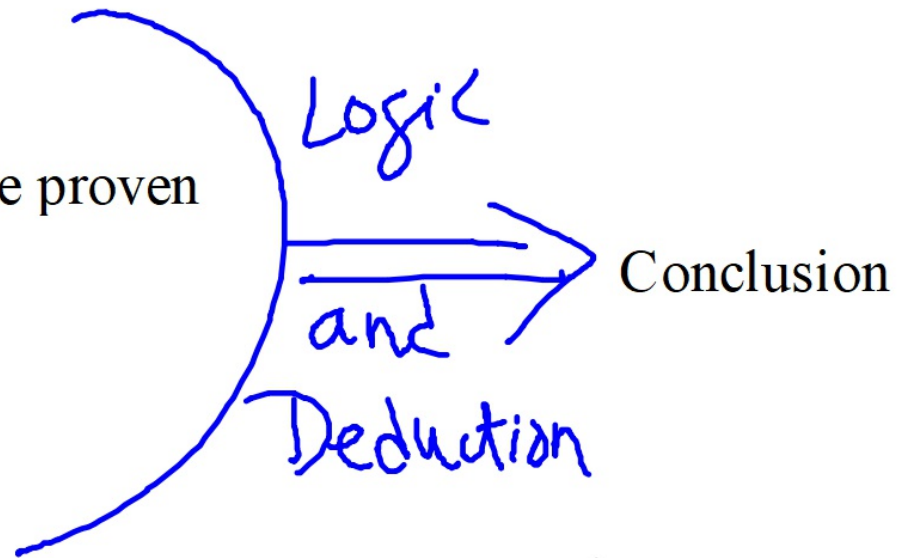
The structure of proofs

Given information

Statement of conjecture to be proven

Axioms

Proven theorems





A key logical argument: the Transitive Property

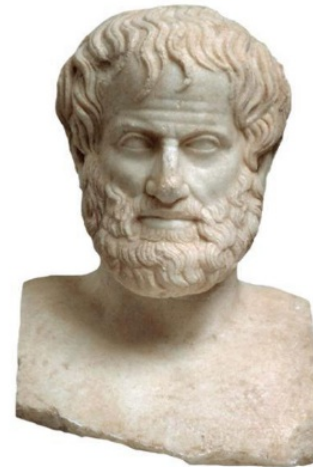
If it's morning, then I eat a bagel.

If I'm bageling, then I'm drinking coffee.

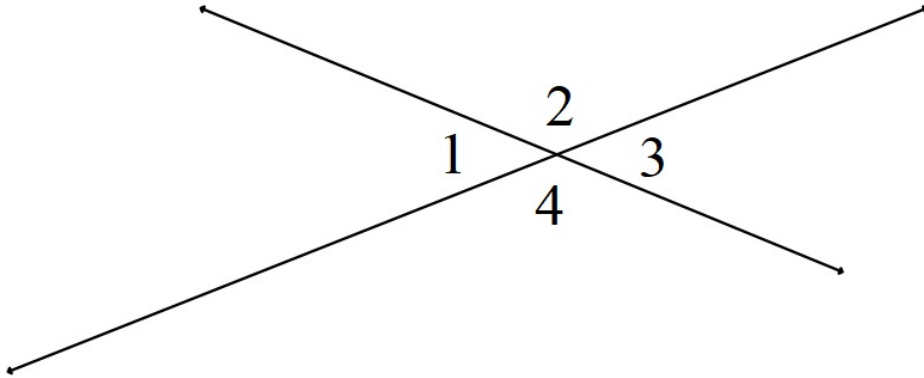
⇒ If it's morning, then I'm drinking coffee.

$A \rightarrow B$
 $B \rightarrow C$
⇒ $A \rightarrow C$

Aristotle's Syllogism

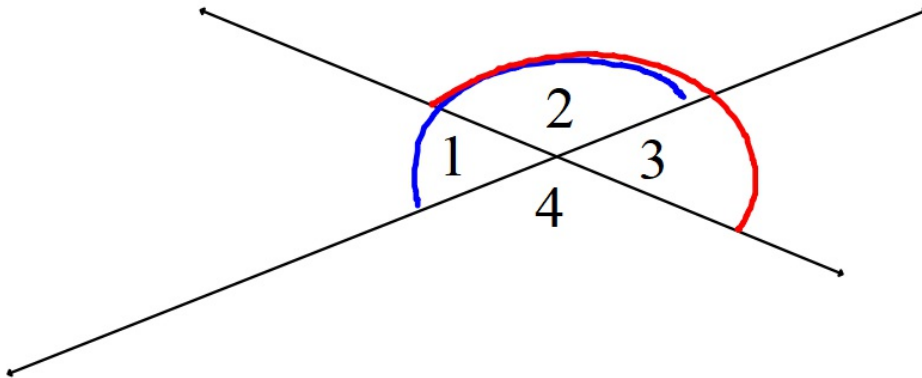


my first geometry proof



my first geometry proof

Why are $\angle 1$ and $\angle 3$ the same?



We are given 2 intersecting lines forming 4 angles. We wish to prove vertical angles, like $\angle 1$ and $\angle 3$ are congruent. We observe that $\angle 1 + \angle 2 = 180^\circ$ because they make a line. Similarly, $\angle 2 + \angle 3 = 180^\circ$ because they make a line. By the transitive property, $\angle 1 + \angle 2 = \angle 2 + \angle 3$. Subtracting $\angle 2$ from both sides leaves $\angle 1 = \angle 3$. Thus they are congruent.

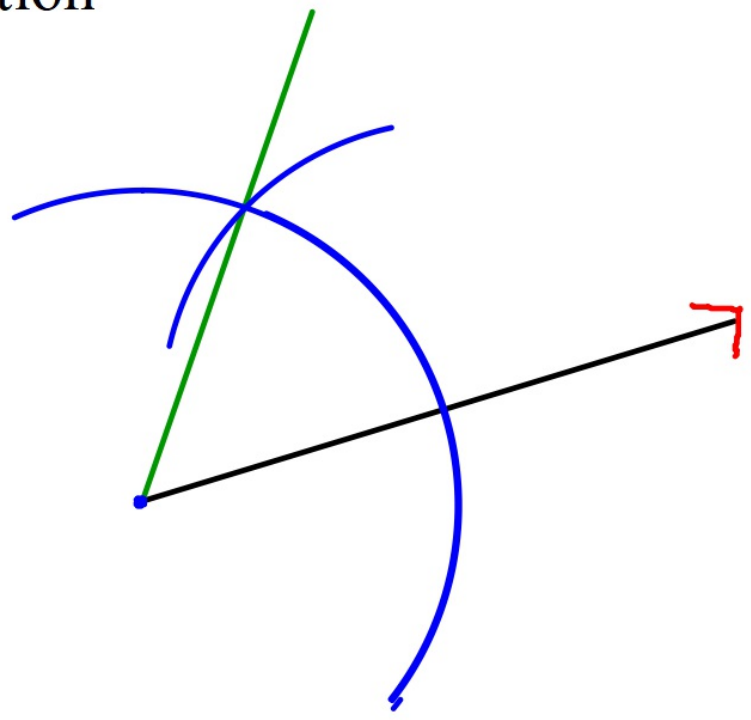
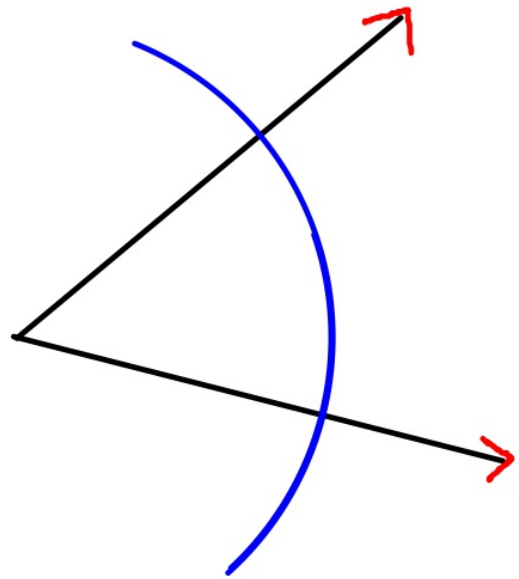
QED

We will add to our language of lines and angles next week so we can describe more complex diagrams and prove more sophisticated conjectures.

For now.....

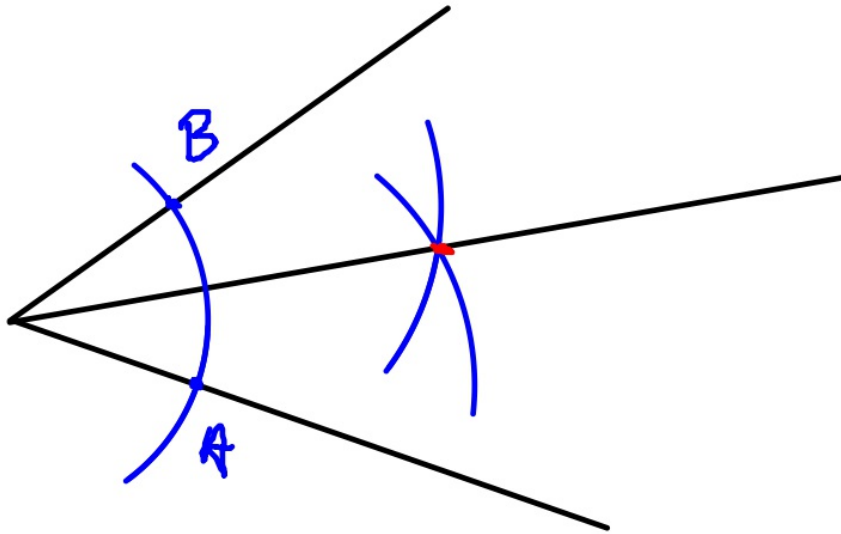


Copying an Angle Construction



Angle Bisector Construction

1



Try it again, without guidance



Practice Assessment

Try it first

Check notes and hw next

Then check solution guide and tutorial videos on mgeo.weebly.com

