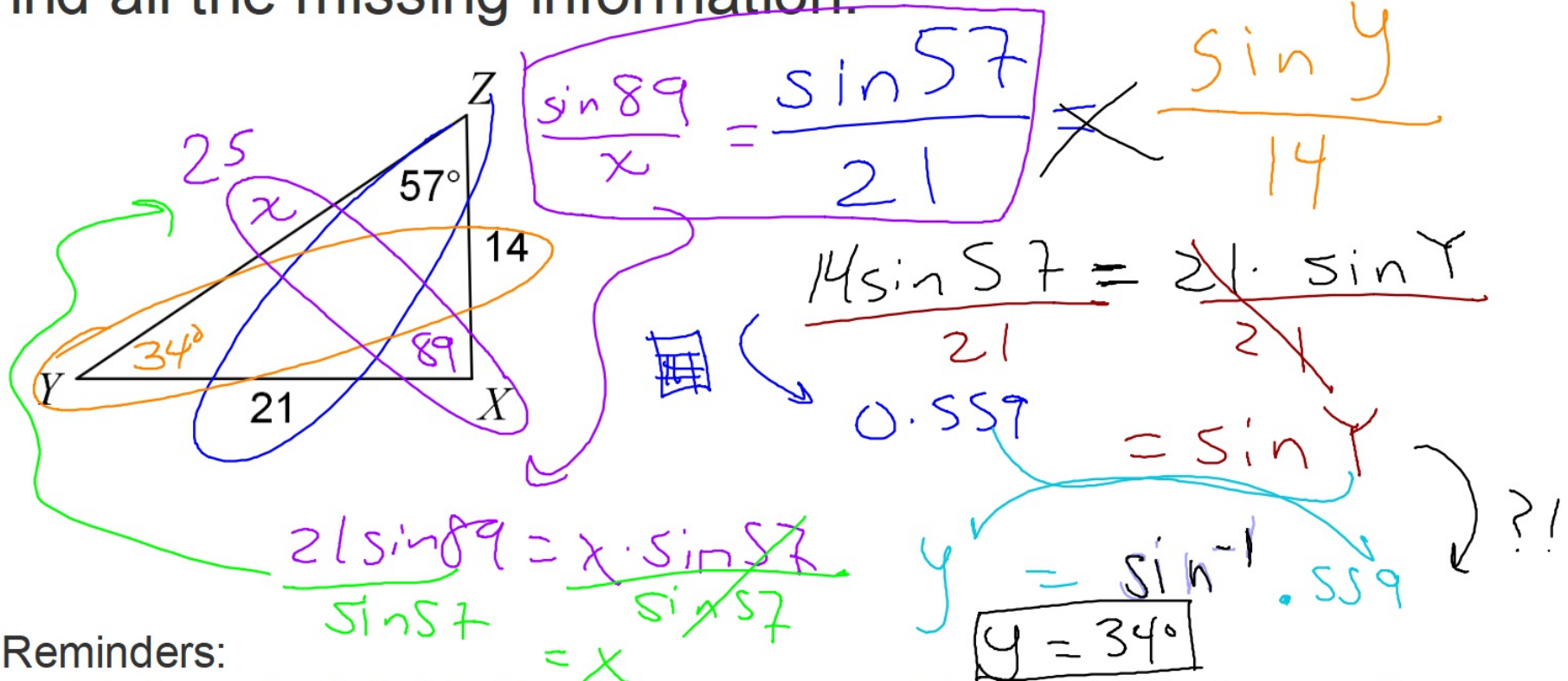


Good morning: warm up
 Find all the missing information.



Reminders:
 next test: rescheduled to Monday
 tutoring today 4-5p

retakes in DS (get a pass!)

Visibly Random Grouping

HW answers

1. 17.982

2. 20 (19.995)

3. 38.109°

4. 36.060°

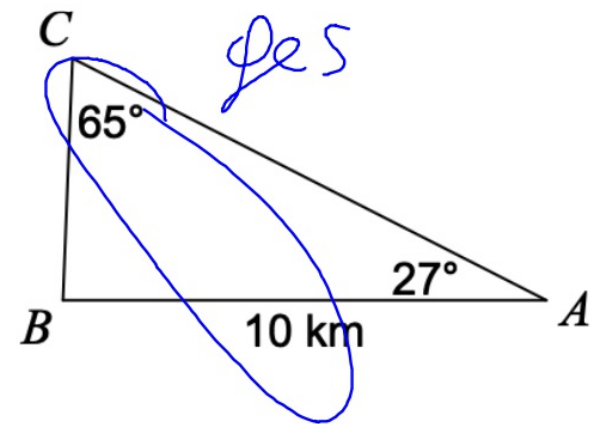
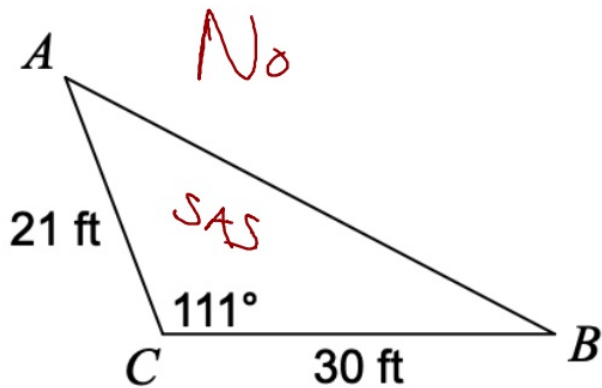
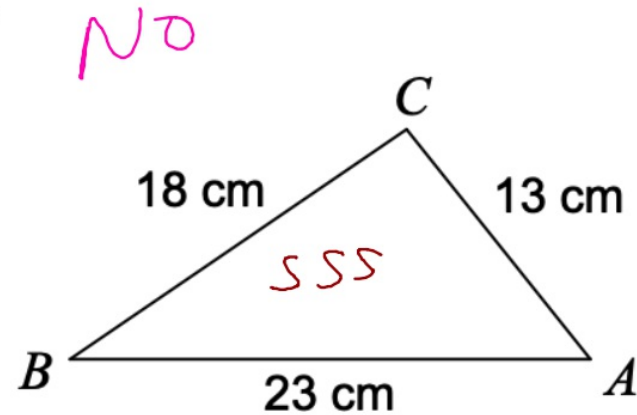
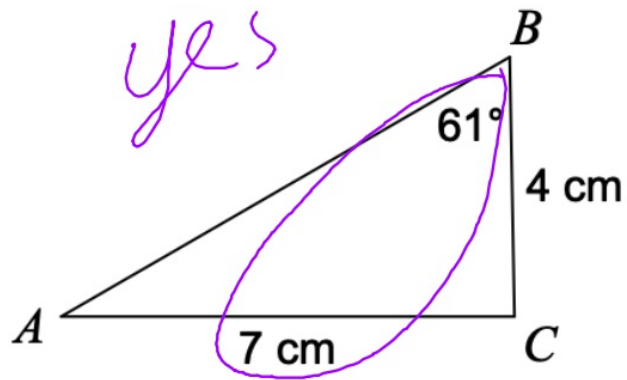
The Rules for Triangle Congruence

SSS SAS ASA AAS

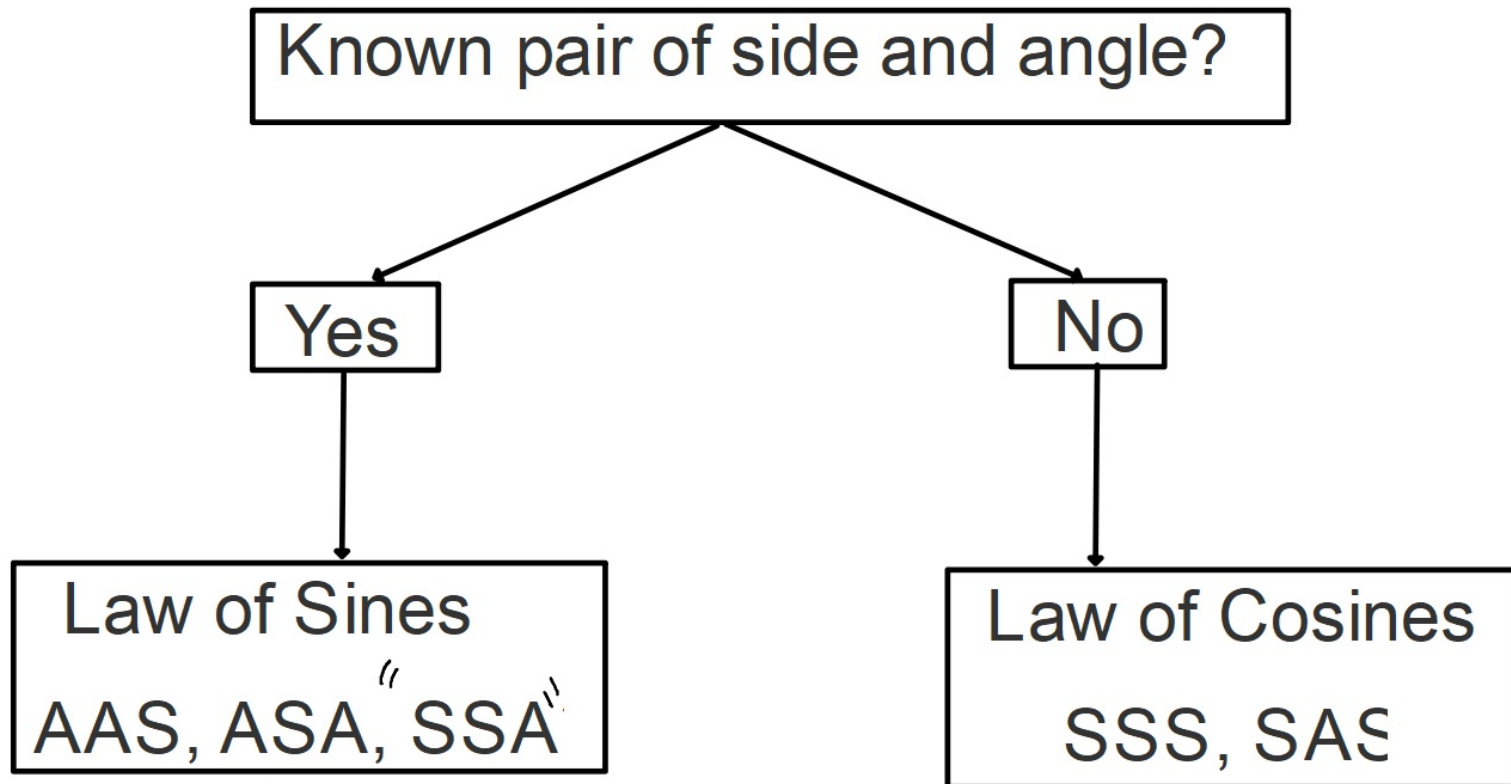
Law of Sines/cosines

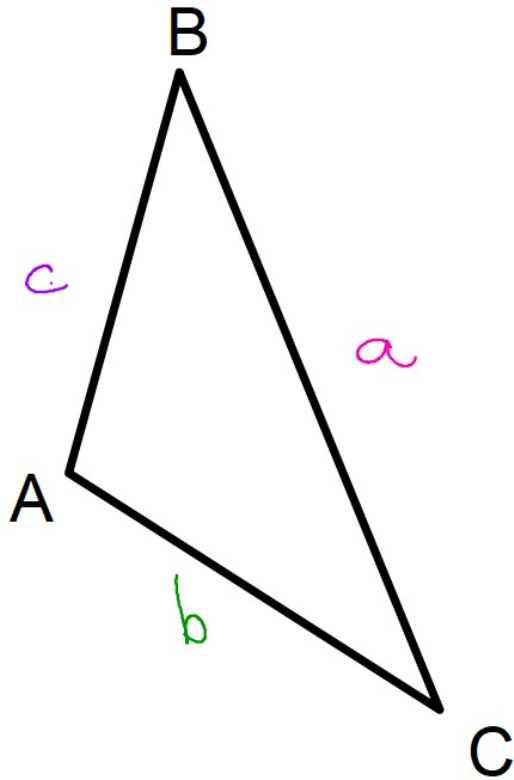
(HL)
→ Pythag.
theorem

Can you use the law of sines??



Solving non-right triangles:

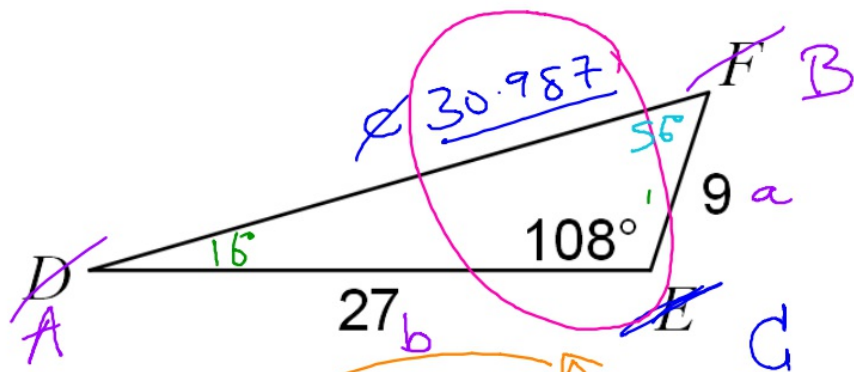




The Law of Cosines

$$c^2 = b^2 + a^2 - 2ab \cos C$$

- an extension of the Pythagorean Theorem
- cba, abC
- looking for side? re-label it "c"
- ~~P~~- looking for angle? re-label it "C"



Find the length of DF.
Then find the remaining angles.

$$c^2 = b^2 + a^2 - 2ab \cdot \cos C$$

$$c^2 = 27^2 + 9^2 - 2(27)(9)\cos(108)$$

$$\sqrt{c^2} = \sqrt{960.182}$$

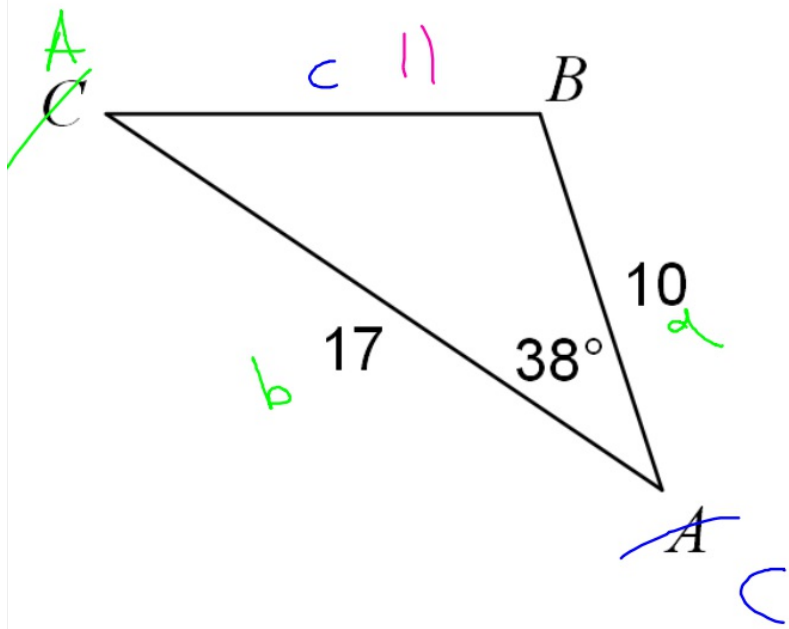
$$c \approx 30.987$$

can now use Law of Sines!

$$\frac{\sin 108}{30.987} = \frac{\sin A}{9}$$

$$9 \cdot \sin 108 = 30.987 \cdot \sin A$$

$$0.276 = \sin A \xrightarrow{-1} A \approx 16^\circ$$



Find the length of CB.

$$c^2 = b^2 + a^2 - 2ab \cos C$$

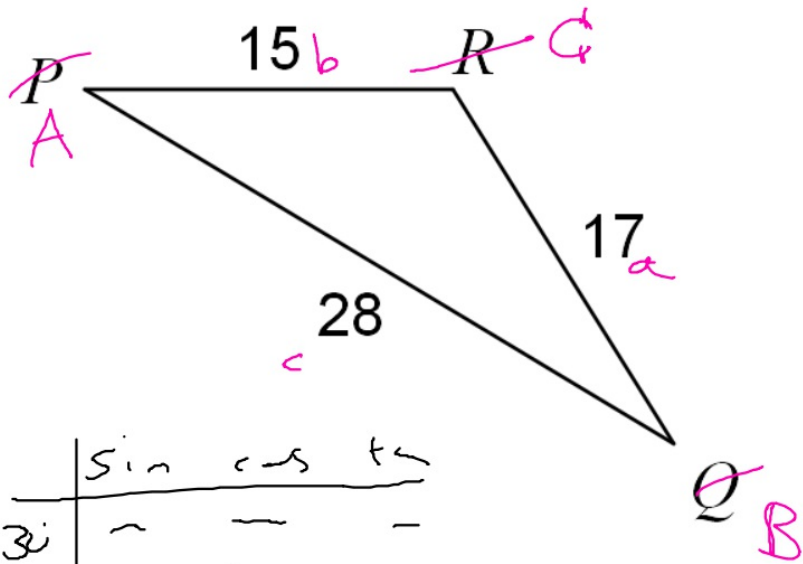
$$c^2 = 17^2 + 10^2 - 2(17)(10) \cos 38$$

$$c^2 = 121.076$$



$$c \approx 11.003$$

$$= 11$$



	sin	cos	tan
sin A:	-	-	-
	-	-	-
	-	-	-

$$C = 122^\circ$$

Find the missing angles.

Find R:

$$c^2 = b^2 + a^2 - 2ab \cdot \cos C$$

$$28^2 = 17^2 + 15^2 - 2(17)(15) \cdot \cos C$$

$$28^2 = 514 - 510 \cos C$$

$$784 = 514 - 510 \cos C$$

$$270 = -510 \cos C$$

$$-0.529 = \cos C$$

$$C = \cos^{-1}(-0.529)$$

Practice!

Whiteboard math

2 problems per group, 1 pen per group
talk it out, work together!

HW:

do the remaining problems
answers at mgeo.weebly.com

test: Monday!