

Name: _____

Date: _____

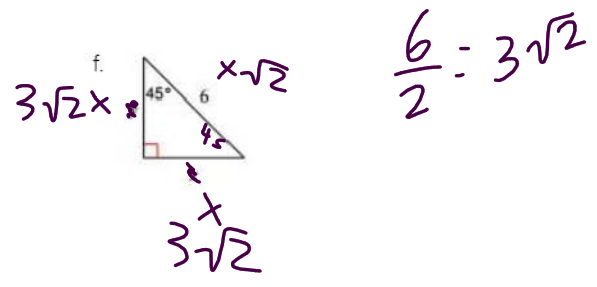
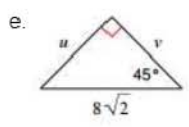
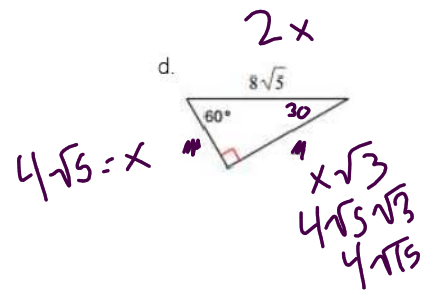
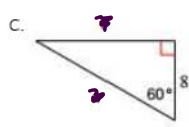
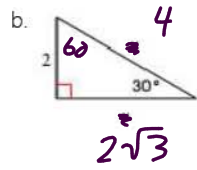
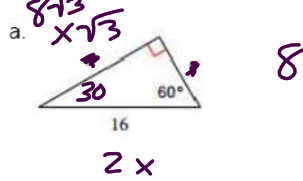
Unit 7 Review Sheet

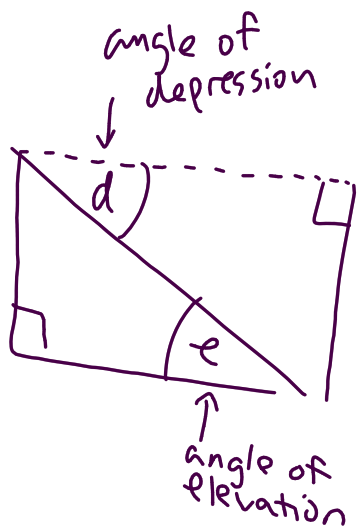
Things to recall/remember:

- Special Right Triangles
 - 30-60-90
 - 45-45-90
- Indirect Proofs
- Using Trigonometry to find side lengths
- Using Trigonometry to find angle measures (Inverse Trig Functions)
- SOH CAH TOA
- Angle of Elevation
- Angle of Depression

-Reflexive Property	-Right Triangle
-Midpoint	-Equilateral Triangle
-Perpendicular Lines	-Substitution Postulate
-Parallel Lines	-Addition Postulate
-Segment Bisector	-Subtraction Postulate
-Angle Bisector	
-Median	
-Altitude	
-Isosceles Triangle	

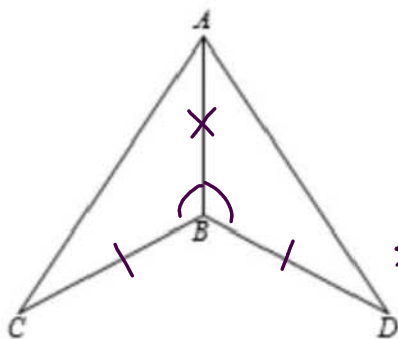
1. Find the missing side lengths in the following diagrams:





2. Given: $\overline{BC} \cong \overline{BD}$,
 $\angle C \neq \angle D$

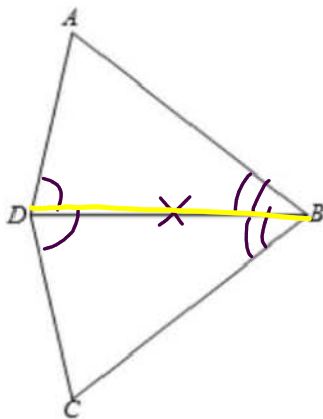
Prove: $\angle CBA \neq \angle DBA$



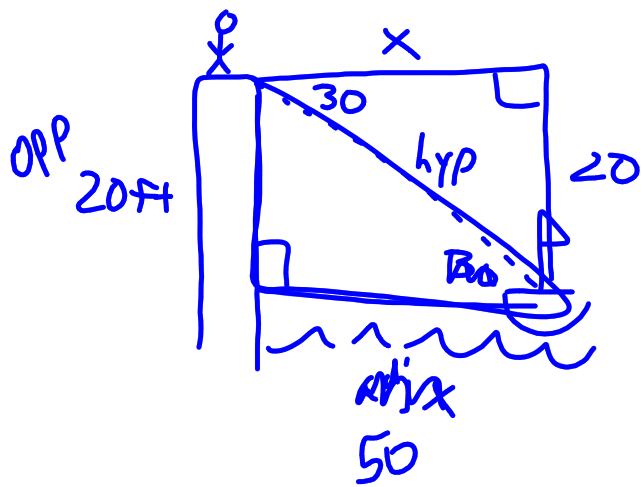
Statement	reason
① $\overline{BC} \cong \overline{BD}$	① Given
② $\angle C \neq \angle D$	② Given
③ $\angle CBA \cong \angle DBA$	③ Assumption
④ $\overline{AB} \cong \overline{AB}$	④ Reflexive Prop.
⑤ $\triangle ABC \cong \triangle ABD$	⑤ SAS \cong SAS
⑥ $\angle C \cong \angle D$	⑥ CPCTC
⑦ $\angle CBA \neq \angle DBA$	⑦ Contradiction steps 2 and 6

3. Given: $\angle ADB \cong \angle CDB$,
 $\overline{AB} \neq \overline{CB}$

Prove: \overline{DB} does not bisect $\angle ABC$.



Statement	reason
① $\angle ADB \cong \angle CDB$	① Given
② $\overline{AB} \cong \overline{CB}$	② Given
③ \overline{DB} does bisect $\angle ABC$	③ Assumption
④ $\angle ABD \cong \angle CBD$	④ Definition of an Angle Bisector
⑤ $\overline{DB} \cong \overline{DB}$	⑤ Reflexive Prop.
⑥ $\triangle ADB \cong \triangle CBD$	⑥ ASA \cong ASA
⑦ $\overline{AB} \cong \overline{CB}$	⑦ CPCTC
⑧ \overline{DB} does not bisect $\angle ABC$	⑧ CONTRADICTION steps 2 and 7



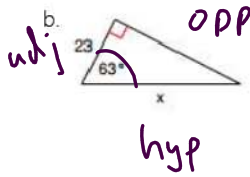
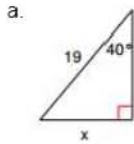
~~Sin~~ ~~CAH~~ ToA $\tan 30 \cdot x$

$$\tan 30 = \frac{20}{x}$$

$$x \tan 30 = \frac{20}{\tan 30}$$

$$x = \text{[circle]}$$

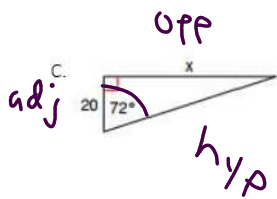
4. Find the missing side length to the nearest tenth:



~~SIN~~ (LAN) ~~TAN~~

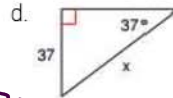
$$\cos 63 = \frac{23}{x}$$

$$23 = \frac{x \cos 63}{\cos 63}$$

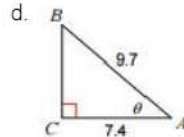
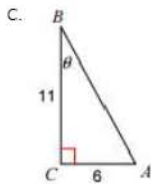
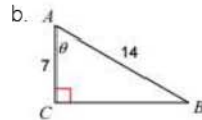
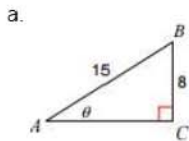


$$\tan 72 = \frac{x}{20}$$

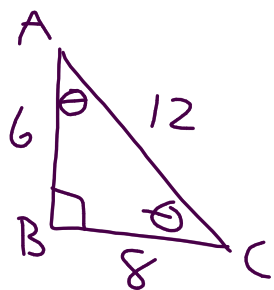
$$x = 20 \tan 72$$



5. Find the missing angle to the nearest whole degree:



In $\triangle ABC$, with 90° angle at B



TOA

$$AB = 6$$

$$BC = 8$$

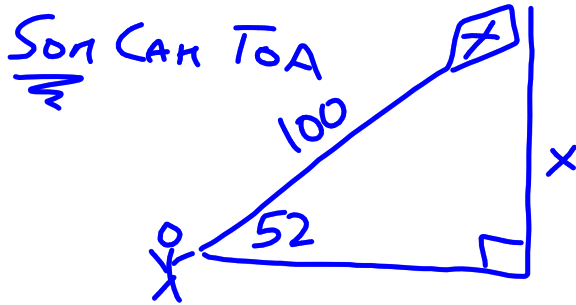
$$AC = 12$$

$$\sin \angle A = \frac{8}{12}$$

$$\tan \angle C = \frac{6}{8}$$

$$\tan \angle A = \frac{8}{6}$$

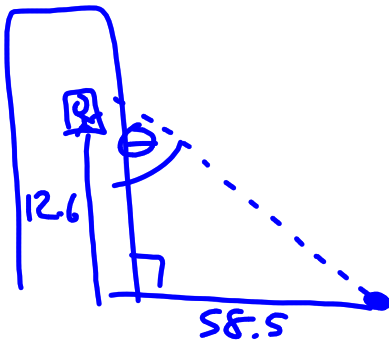
6. A man flies a kite with a 100 foot string. The angle of elevation of the string is 52° . How high off the ground is the kite?



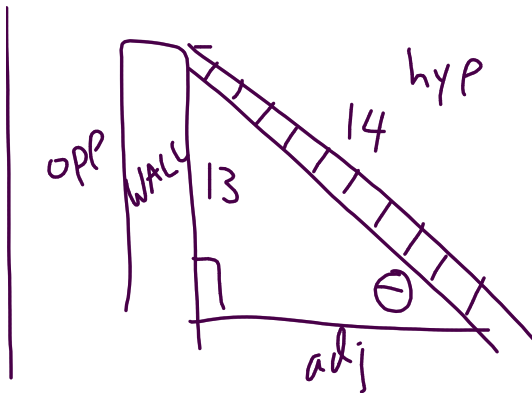
$$\sin 52 = \frac{x}{100}$$

$$x = 100 \sin 52$$

7. A person stands at the window of a building so that his eyes are 12.6 m above the level ground. An object is on the ground 58.5 m away from the building on a line directly beneath the person. Compute the angle of depression of the person's line of sight to the object on the ground.



8. A 14 foot ladder is used to scale a 13 foot wall. At what angle of elevation must the ladder be situated in order to reach the top of the wall?



Son ~~CAH~~ ~~TOA~~

$$\sin x = \frac{13}{14}$$

$$\sin^{-1}(13/14) = 68^\circ$$

