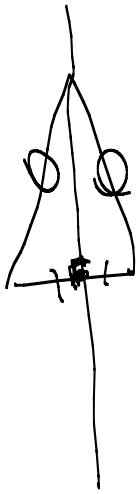
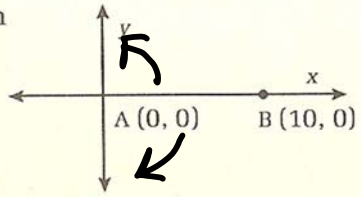
AMDG

NAME
Ms. Kresovic
Adv Geo – Period
Fri., 25 Oct. 2012

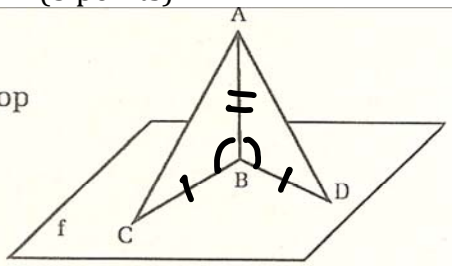


Ch 3 Practice Test Answer Key

	Write A for Always, S for Sometimes, or N for Never in the right-most column. (1 pt each, 4 points)	Write answer in this column
1.	A triangle has 3 sides.	1. A
2.	If a median of a triangle is also an altitude of the triangle, the triangle is scalene.	2. N (it's isos)
3.	If an angle is selected at random from a triangle, the angle is obtuse.	3. S
4.	If A = (0, 0), B = (10, 0), and $\overline{AB}$ is rotated 90° with respect to the origin, then B will rotate to the point (0, −10). 	4. S

5. Complete statements 2 & 3 and reasons 2 – 4. (5 points)

Given: Two triangles, △ABC and △ABD, standing on a desktop called f
$\overline{BC} \cong \overline{BD}$
$\angle ABC \cong \angle ABD$
Prove: $\overline{AC} \cong \overline{AD}$



	Statements		Reasons
1.	Two triangles, △ABC and △ABD, standing on a desktop called f $\overline{BC} \cong \overline{BD}$ $\angle ABC \cong \angle ABD$	1.	Given
2.	$\overline{AB} \cong \overline{AB}$	2.	Reflexive
3.	△ABC ≅ △ABD	3.	SAS
4.	$\overline{AC} \cong \overline{AD}$	4.	CPCTC

△DOG ≅ △CAT

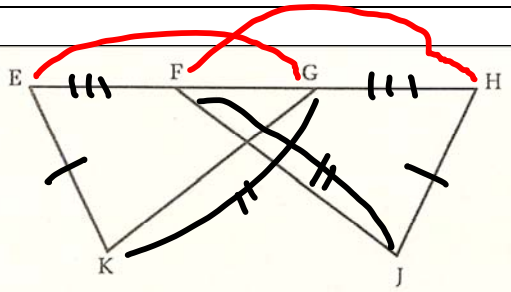
Name 3 prs ≅ segs
$\overline{DO} \cong \overline{CA}$
$\overline{OG} \cong \overline{AT}$
$\overline{DG} \cong \overline{CT}$

Name 3prs ≅ ∠s
∠DOG ≅ ∠CAT
∠ODG ≅ ∠ACT
∠OGD ≅ ∠ATC

6. Complete lines 2 – 4. (6 points)

Given: $\overline{EK} \cong \overline{HJ}$, $\overline{KG} \cong \overline{JF}$, $\overline{EF} \cong \overline{HG}$

Prove: $\angle E \cong \angle H$



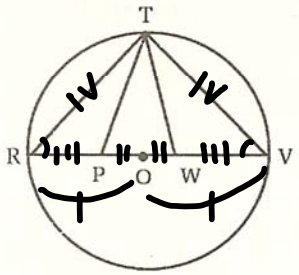
SSS
SAS
ASA
HL

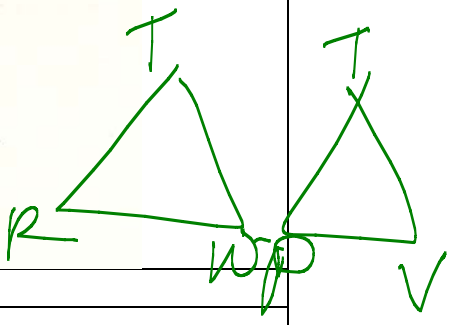
	Statements		Reasons
1.	$\overline{EK} \cong \overline{HJ}$, $\overline{KG} \cong \overline{JF}$, $\overline{EF} \cong \overline{HG}$	1.	Given
2.	$\overline{EG} \cong \overline{HF}$	2.	Add
3.	$\triangle KEG \cong \triangle JHF$	3.	SSS
4.	$\angle E \cong \angle H$	4.	CPCTC

7. Complete statements ~~2 & 3~~ and reasons ~~2 – 4~~. (10 points)

Given: $\odot O$, $\angle R \cong \angle V$, $\overline{PO} \cong \overline{OW}$

Prove: $\overline{TP} \cong \overline{TW}$

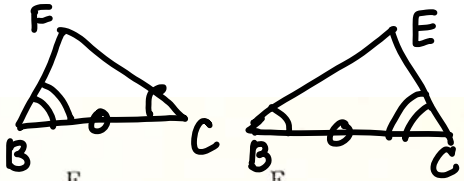




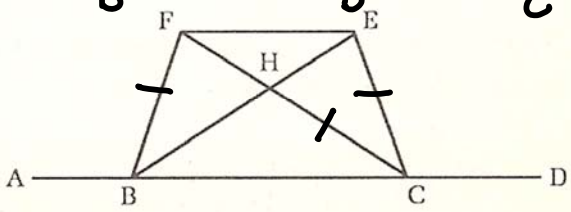
	Statements		Reasons
1.	$\odot O$	1.	Given
2.	$\overline{OR} \cong \overline{OV}$	2.	$\odot \Rightarrow \cong$ radii
3.	$\overline{PO} \cong \overline{OW}$	3.	Given
4.	$\overline{PR} \cong \overline{WV}$ OR $\overline{RW} \cong \overline{VP}$	4.	Subtract Add
5.	$\angle R \cong \angle V$	5.	Given
6.	$\overline{RT} \cong \overline{VT}$	6.	$\triangle \Rightarrow \triangle$
7.	$\triangle TRP \cong \triangle TVW$ OR $\triangle TRW \cong \triangle TVP$	7.	SAS
8.	$\overline{TP} \cong \overline{TW}$	8.	CPCTC

NAME
Ms. Kresovic
Adv Geo – Period
Fri., 25 Oct. 2012

Ch 3



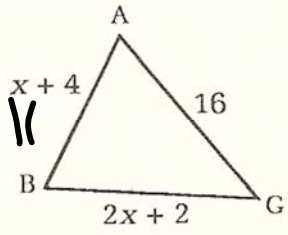
Supply the missing reasons in the proof for problem 8. (5 points)

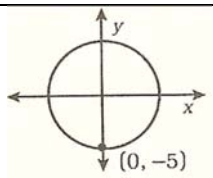
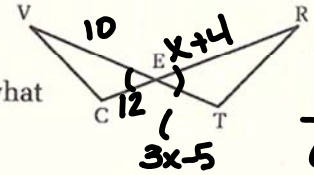
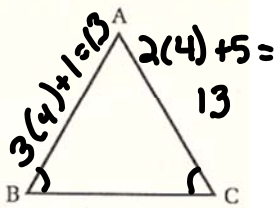
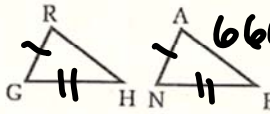


8. Given: $\angle EBC \cong \angle FCB$
$\angle ABF \cong \angle DCE$
$\overline{CH} \cong \overline{FB}$
Prove: $\triangle EHC$ is isosceles.

Statements	Reasons
A 1 $\angle EBC \cong \angle FCB$	1 Given
2 $\angle ABF$ is supp. to $\angle FBC$. $\angle DCE$ is supp. to $\angle ECB$.	2 If two angles form a straight angle, then they are supplementary.
3 $\angle ABF \cong \angle DCE$	3 Given
A 4 $\angle FBC \cong \angle ECB$	4 SUPPS OF ≅ ∠S ARE ≅
S 5 $\overline{BC} \cong \overline{BC}$	5 REF
6 $\triangle FBC \cong \triangle ECB$	6 ASA
7 $\overline{FB} \cong \overline{EC}$	7 CPCTC
8 $\overline{CH} \cong \overline{FB}$	8 Given
9 $\overline{EC} \cong \overline{CH}$	9 Trans.
10 $\triangle EHC$ is isosceles.	10 2 ≅ SDS ⇒ ISOS Δ

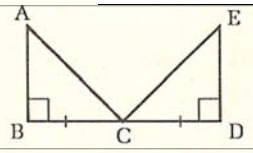
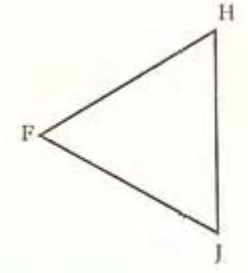
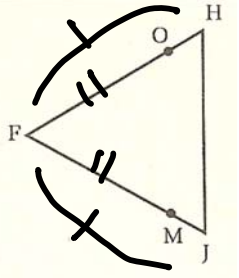
Exercises 9 – 13 are 3 points each.

9.	The perimeter of $\triangle BAG$ is 43. $AG = 16$, $AB = x + 4$, $BG = 2x + 2$ By solving for x, determine whether $\triangle BAG$ is scalene, isosceles, or equilateral. ← sum of sides  $3x + 22 = 43$ $-22 \quad -22$ $3x = 21$ $x = 7$ 11 16	9. ISOS Δ

10.	 The circle has its center at the origin and passes through (0, -5). Find the exact area of the circle. $r=5$, $A=\pi r^2=\pi 25 \rightarrow$	10. 25π
11.	$EC = 12$, $ET = 3x - 5$, $VE = 10$, $ER = x + 4$ $m\angle VEC = 5x - 2$ $m\angle RET = 3x + 10$ On the basis of the given, what must be the value of x? Is $\triangle VEC \cong \triangle RET$?  IF $\cong\triangle$s by SAS $VE = RE$ $10 = x+4$ $10 = 10$ ∴ True $CE = TE$ $12 = 3x-5$ $12 = 18-5$ $12 = 13$ ∴ FALSE $\angle VEC \cong \angle RET$ (vert $\angle$s are $\cong$) $m\angle VEC = m\angle RET$ $5x-2 = 3x+10$ $2x = 12$ $x = 6$	11. $\triangle s \ncong$
12.	$\angle B \cong \angle C \Rightarrow \overline{AB} \cong \overline{AC}$ $AB = 3x + 1$, $AC = 2x + 5$, $BC = x + y$ Solve for x. If $y < 2.97$, then BC must be less than what number?  $AB = AC$ $3x+1 = 2x+5$ $x = 4$ IF $y < 2.97$ Then $BC < (4+2.97)$ $BC < 6.97$	12. 6.97
13.	$\triangle RGH \cong \triangle ANE \Rightarrow \angle G \cong \angle N \Rightarrow m\angle G = m\angle N$ $GH = 10$ $m\angle G = 2w + 2$, $m\angle N = 17w - 658$ By solving for w, tell whether or not $\overline{AN}$ is an altitude of $\triangle ANE$.  $2w+2 = 17w-658$ $660 = 15w$ $220 = 5w$ $44 = w$ If $\overline{AN}$ alt then $\angle N = 90° = \angle G$ $m\angle G = 2(40+4)+2 = 88+2 = 90°$ ∴ YES, $\overline{AN}$ alt.	13. $w = 44$ $\overline{AN}$ is an altitude

NAME
Ms. Kresovic
Adv Geo – Period
Fri., 25 Oct. 2012

Ch 3

14.	A triangle in which no two sides are congruent is called a(n) _____ triangle.	14. scalene
15.	In the diagram, if $\overline{BC} \cong \overline{CD}$, then in order to prove $\triangle ABC \cong \triangle EDC$ by HL, what additional two sides must be congruent? 	15. $\overline{AC}$ must be $\cong$ to $\overline{EC}$
16.	In a triangle, what name is given to a line segment drawn from a vertex to the midpoint of the opposite side?	16. median
17.	If $\overline{FH} \cong \overline{FJ}$, name the base angles. 	17. $\angle J$ & $\angle H$ or $\angle FJH$ & $\angle FHJ$
18.	If $\overline{FH} \cong \overline{FJ}$ and $\overline{FO} \cong \overline{FM}$, then what property justifies that $\overline{HO} \cong \overline{JM}$? 	18. Subtraction