3rd 9-weeks TEST REVIEW

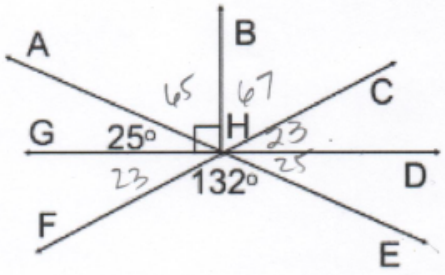
Mar 2-2:37 PM

Analytic Geometry
3rd 9 Weeks Review

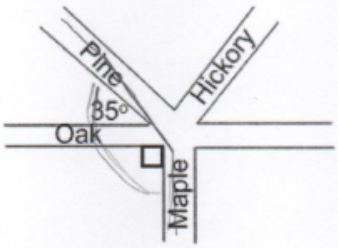
Name: KEY
Date: _____ Period: _____

1) Find the indicated angle measures using the picture to the right.

$m\angle AHB =$ 65
$m\angle BHC =$ 67
$m\angle DHE =$ 25
$m\angle GHF =$ 23
$m\angle CHE =$ 48
$m\angle FHE =$ 132
$m\angle FHD =$ 157

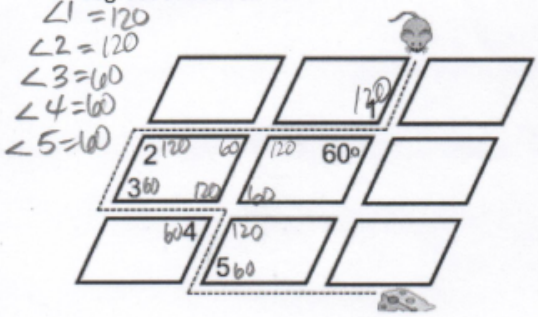


2) Brittany is walking home from school. She is walking down Maple towards Oak. When she reaches the end of Maple, she will continue on to Pine. What is the measure of the turn she makes from Maple on to Pine? 90+35=125°

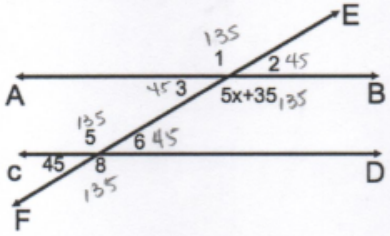


3) The maze below has two intersecting sets of parallel paths. A mouse makes five turns in the maze to get a piece of cheese. Follow the mouse's path through the maze. What are the degrees at each turn?

∠1 = 120
∠2 = 120
∠3 = 60
∠4 = 60
∠5 = 60



Use the diagram for questions 4 - 15. AB // CD and are cut by transversal EF. X = 20

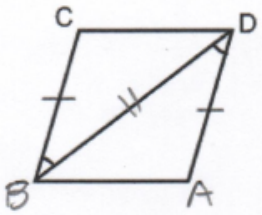


4) m∠1 = 135
5) m∠5 = 135
6) m∠2 = 45
7) m∠6 = 45
8) m∠3 = 45
9) m∠8 = 135

What type of angles are the following:

10) ∠1 & ∠8 Alt. Ext
11) ∠2 & ∠8 SS Ex
12) ∠2 & ∠6 Corresponding
13) ∠1 & ∠5 Corresponding
14) ∠3 & ∠5 SS I
15) ∠3 & ∠6 Alt. In

16) Given: $\overline{BC} \cong \overline{DA}$; $\angle CBD \cong \angle ADB$
Prove: $\Delta BCD \cong \Delta DAB$

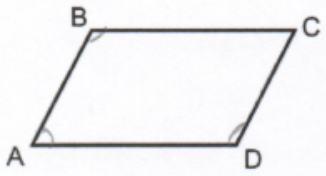


Statements	Reasons
1) $\overline{BC} \cong \overline{DA}$; $\angle CBD \cong \angle ADB$	1) Given
2) $\overline{BD} \cong \overline{BD}$	2) Reflexive Property
3) $\Delta BCD \cong \Delta DAB$	3) SAS

17) Given: $\angle 1 \cong \angle 2$, $\overline{DH}$ bisects $\angle BDF$
Prove: $\Delta BDH \cong \Delta FDH$

Statements	Reasons
1) $\angle 1 \cong \angle 2$, $\overline{DH}$ bisect $\angle BDF$	1) Given
2) $\angle BDH \cong \angle FDH$	2) Definition of an Angle Bisector
3) $\overline{DH} \cong \overline{DH}$	3) Reflexive
4) $\Delta BDH \cong \Delta FDH$	4) ASA

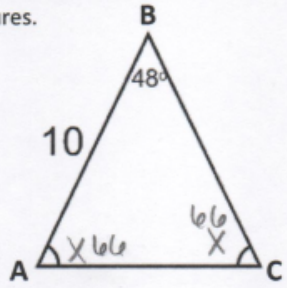
18) Given: $\angle A$ is supplementary to $\angle B$; $\angle A$ is supplementary to $\angle D$
Prove: ABCD is a parallelogram



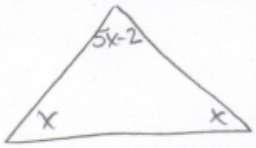
Statements	Reasons
1) $\angle A$ is Supp. $\angle B$, $\angle A$ is Supp. $\angle D$	1) Given
2) $\overline{AB} \parallel \overline{DC}$	2) If same-side int. angles are supplementary, then lines are parallel
3) $\overline{BC} \parallel \overline{AD}$	3) If same-side int. angles are supplementary, then lines are parallel
4) ABCD is a parallelogram	4) Definition of a parallelogram

19) If ΔABC is an isosceles triangle, find the indicated measures.

$\angle A =$ 66
$\angle C =$ 66
$\overline{BC} =$ 10



20) In an isosceles triangle, the vertex angle is 2 less than 5 times the measure of the base angles. Find the measure of all the angles.

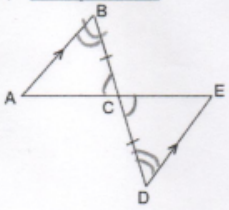


$7x - 2 = 180$
$7x = 182$
$x = 26$

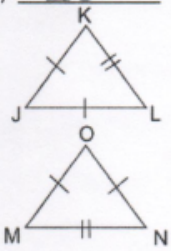
$x = 26$; 128

Determine whether the following triangles are congruent. If yes, write a congruency statement and justify your answer (SSS, SAS, ASA, AAS)

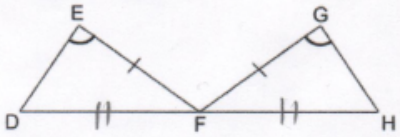
21) ASA



22) SSS



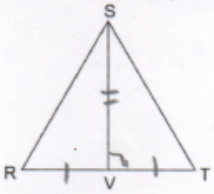
23) NC



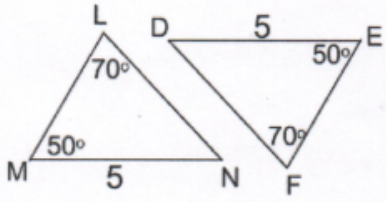
F is the midpoint of DH

24) SAS

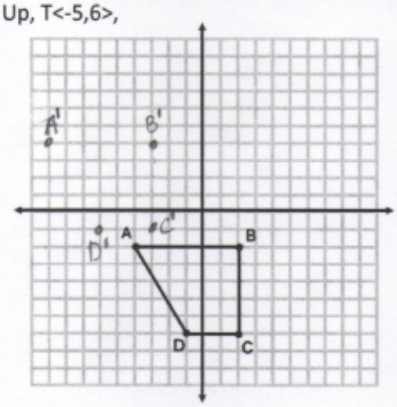
$\overline{SV} \perp \overline{RT}$; V is the midpoint of RT



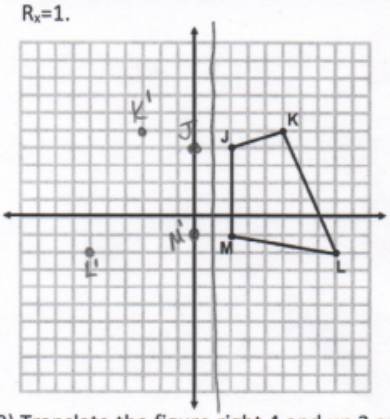
25) AAS



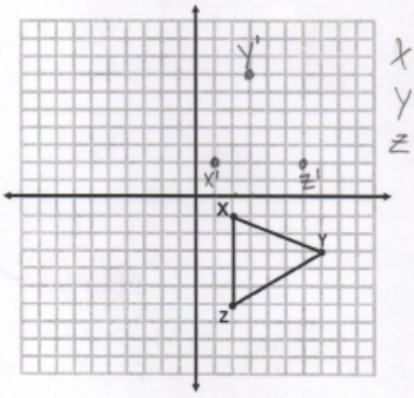
26) Translate ABCD 5 units to the left and 6 units Up, T<-5,6>,



27) Reflect figure JKLM over the line x = 1, R_x=1.

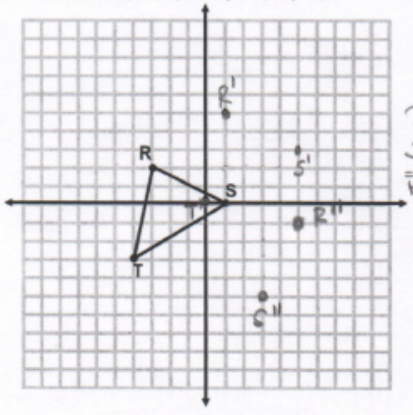


28) Rotate ΔXYZ 270° clockwise about the origin, r(270°,O).



X'(1,2)
Y'(3,7)
Z'(6,2)

29) Translate the figure right 4 and up 3 and then rotate 90°, T<4,3>∘r(90°, O).



T''(0,0)
R''(5,-1)
S''(3,-5)

30) Name the point of concurrency that goes with each special segment.

Median - Centroid Perpendicular Bisector - Circumcenter

Altitude - Orthocenter Angle Bisector - Incenter

31) If the point of concurrency is located on the midpoint of the hypotenuse of a right triangle, which special segments were constructed? Circumcenter

32) Where could the incenter of a triangle be located?

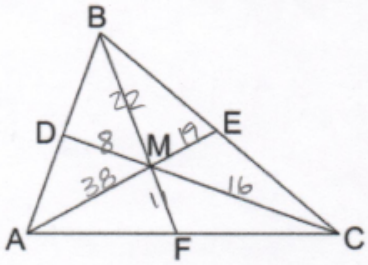
Inside only

33) Which point of concurrency is equidistance from the vertices of a triangle?

Circumcenter

34) If point M is the centroid, find each of the indicated measures.

$\overline{BM} = 22$; $\overline{AE} = 57$; $\overline{DM} = 8$



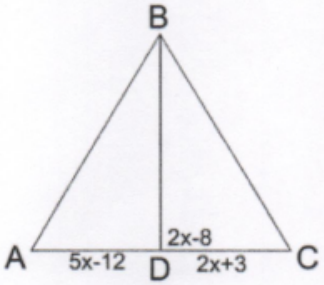
$\overline{FM}$ = 11

$\overline{AM}$ = 38

$\overline{ME}$ = 19

$\overline{CM}$ = 16

$\overline{CD}$ = 24



35) If $\overline{BD}$ is an altitude, find the value of x.

$2x-8=90$ $2x=98$

$x=49$

36) If $\overline{BD}$ is a median, find the value of x.

$5x-12=2x+3$

$3x=15$

$x=5$