

Bring this packet to class; some days you will be given time to work on it. Packet is due _____

Know the definitions for the following terms: (You're not required to define these, but insure you know them)

parallel:
perpendicular:
skew:
incenter:
centroid:
obtuse:
perp. bisector:

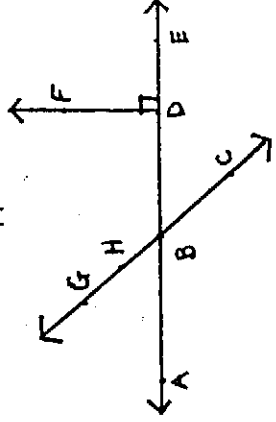
complementary:
supplementary:
congruent:
circumcenter:
median:
acute:
trapezoid:

scalene:
isosceles
equi-lateral/angular:
quadrilateral:
rhombus:
parallelogram:
altitude:

Be able to identify the following angles:

vertical / corresponding / alternate interior / alternate exterior / linear pair / consecutive / opposite

1. Use the diagram to name the following with correct symbolism



- a. an acute angle $\angle \overset{\text{inter}}{B}$
- b. a segment perpendicular to AE \overline{FD} or \overline{DF}
- c. a line $\overleftrightarrow{\text{inter } B}$
- d. A ray with initial point of B $\overrightarrow{B \text{ inter}}$
- e. a pair of vertical angles. \angle & \angle _____

Find the length between (1,2) (-3,4).

$$\sqrt{20} = 2\sqrt{5} \text{ or } 4.47$$

3. Find slope of line going through (-1,2) (-3,-4).

$$\frac{-6}{-2} = 3$$

4. Find the equation of the line perpendicular to your answer in #3 and through (3,-1).

$$y = -\frac{1}{3}x$$

5. Name the type of angle and find the indicated measure; $l_1 \parallel l_2$

$$m\angle H = 75^\circ$$

a. $\angle H$ and $\angle B$ are Correspond

$$m\angle B = 75^\circ$$

c. $\angle H$ and $\angle G$ are lin. p.c.

$$m\angle G = 105^\circ$$

e. $\angle H$ and $\angle F$ are vertical

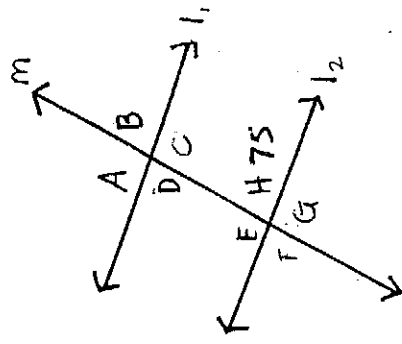
$$m\angle F = 75^\circ$$

g. $\angle H$ and $\angle C$ are Consecutive

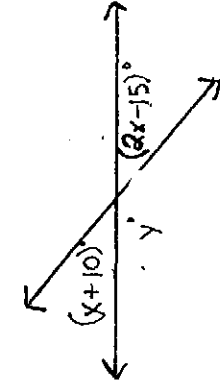
$$m\angle C = 105^\circ$$

i. $\angle C$ and $\angle E$ are alt. int

$$m\angle E = 105^\circ$$



6. Find value of x and y in each diagram



$$x + 10 = 2x - 15$$

$$x = 25^\circ$$

$$y = 145^\circ$$

If there is pizza, then I will not miss the meeting.

1. Using the given sentence write each of the following:

Conclusion: I will not miss the meeting

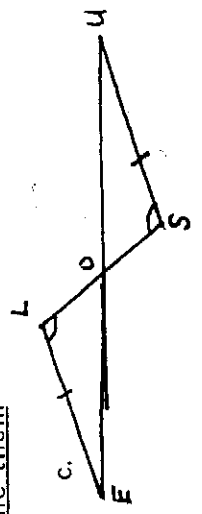
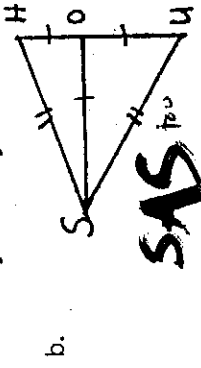
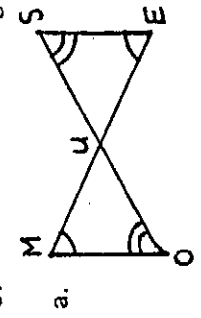
Converse: If I won't miss the meeting, then there's pizza.

Contrapositive: If I miss meeting, then there isn't pizza.

Negation: If there is not pizza, then I'll miss the meeting.

Hypothesis: there is pizza

8. Are the triangles congruent? Why or why not? If so, name them



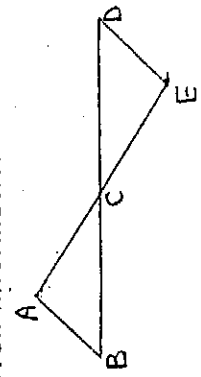
SAS

no AAA

SSS $\triangle SHO \cong \triangle SUO$

AAS $\triangle ELO \cong \triangle USO$

9. Use the diagram below and the given information to decide if the triangles are congruent. Give a reason for your answer.



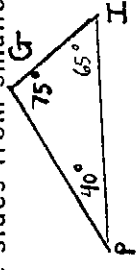
a. C is the midpoint of \overline{BD}
C is the midpoint of \overline{AE}

b. $m\angle A = m\angle E = 90^\circ$

$AB \cong DE$ HL (or AAS)

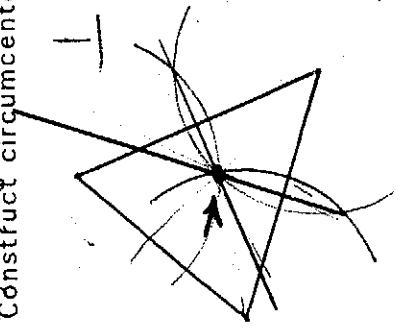
SAS

10. Order the sides from smallest to largest



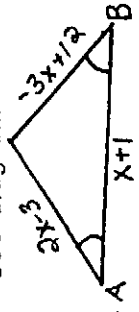
GI, PG, PI

a. Construct circumcenter.



\perp bisectors

11. Use diagram below to find AB



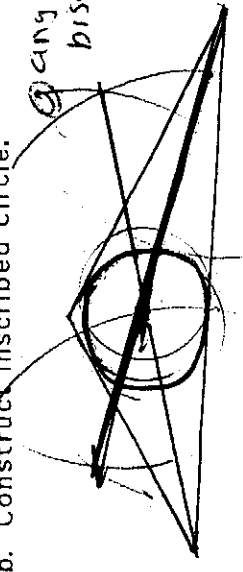
$$2x - 3 = -3x + 12$$

$$x = 3$$

AB = 4

12

a. Construct circumcenter.



b. Construct inscribed circle.

angle bisectors

3. Find the midpoint of \overline{AB} $(1.5, 4)$

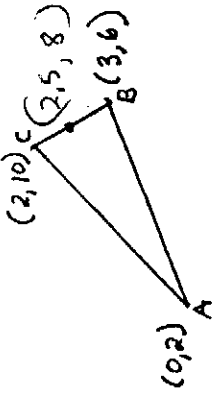
b. Find the equation of the median of \overline{BC} .

$y = 2.4x + 2$

14. Write the equation of line parallel to $y = -2x + 3$ and going through $(2, 1)$.

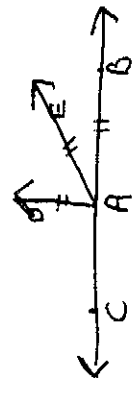
$y = -2(2) + b$

$y = -2x + 5$



15. Draw one diagram fitting all descriptions:

- a. \overline{AB} and \overline{AC} are opposite rays
- b. $\overline{AB} \cong \overline{AD} \cong \overline{AE}$
- c. E is in the interior of $\angle DAB$



16. If $\triangle ABC = \triangle DEF$ with $AB = 8$ and $EF = 3$, write an inequality for the possible lengths of AC

$5 < x < 11$

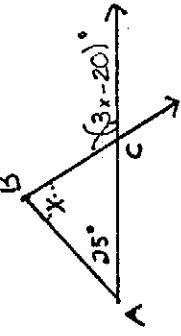
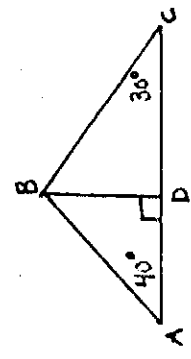
17. \overline{BD} is an altitude. Find:

- a. $m \angle ABC$
- b. $m \angle CDB$
- c. $m \angle ABD$

110° 90° 50°

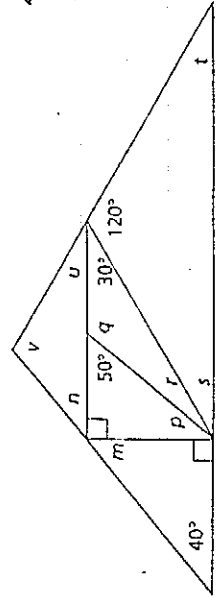
Use diagram to right

$m \angle B = 22.5$



$x + 25 = 3x - 20$
 $45 = 2x$
 $22.5 = x$

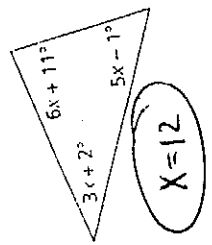
19. Find the measure of all labeled angles.



$m = 50^\circ$
 $n = 40$
 $p = 40$
 $q = 130^\circ$

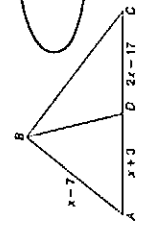
$r = 20^\circ$
 $s = 30^\circ$
 $t = 30^\circ$
 $u = 30^\circ$
 $v = 110^\circ$

20. Solve for X



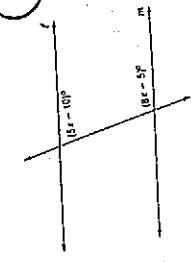
$X = 12$

b. Find AB if \overline{BD} is a median of $\triangle ABC$.



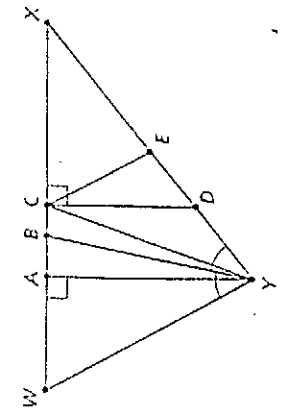
$AB = 13$

c. Find the value of x so that $\ell \parallel m$.



$x = 15$

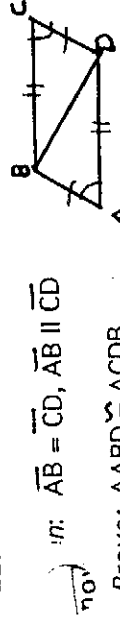
21. Name the special segment of $\triangle WXY$.



Given: $\overline{WC} \cong \overline{XE}$, $\overline{YE} \cong \overline{XZ}$, $\angle WYB \cong \angle BYX$

- (a) A midsegment \overline{CE}
- (b) A perpendicular bisector \overline{CD}
- (c) An angle bisector \overline{YB}
- (d) An altitude \overline{AY}
- (e) A median \overline{CY}

22. Write a two-column proof



Given: $\overline{AB} = \overline{CD}$, $\overline{AD} \parallel \overline{BC}$

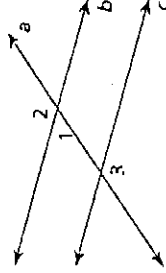
Prove: $\triangle ABE \cong \triangle CDE$

State	Reason
1. $AB = CD$	1. given
2. $AB \parallel CD$	2. given
3. $ABCD$ is \square	3. one pair of sides \parallel
4. $\overline{BC} = \overline{AD}$	4. def. \square
5. $\angle A = \angle C$	5. def. \square
6. $\triangle ABD = \triangle CPB$	6. SAS

24. Write a two-column proof

Given: $m\angle 1 = 50^\circ$, $m\angle 3 = 130^\circ$

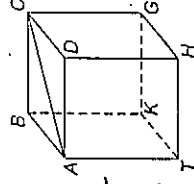
Prove: $b \parallel c$



S	R
1. $\angle 1 = 50^\circ$	1. given
2. $\angle 3 = 130^\circ$	2. given
3. $\angle 1 + \angle 2 = 180^\circ$	3. Linear Pair
4. $50^\circ + \angle 2 = 180^\circ$	4. Substitute (1, 3)
5. $\angle 2 = 130^\circ$	5. Subtraction
5.5. $\angle 2 = \angle 3$	5.5. substitute (2, 5)
6. $b \parallel c$	6. alt. ext. Converse

26. Use the diagram at right

- Name 2 segments parallel to \overline{DH} , \overline{CG} , \overline{AT} , \overline{BK}
- Name 2 segments perpendicular to \overline{BA} , \overline{BC} , \overline{BK} , \overline{AD} , \overline{AT}
- Name a segment skew to \overline{TH} , \overline{AC} , \overline{BK} , \overline{CG} , \overline{CD} , \overline{AB}



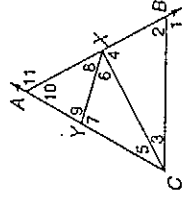
27. Find the distance from $(3, 9)$ to $y = 3x - 2$

$$\sqrt{40} = 2\sqrt{10} \text{ or } 6.32$$

$$(3, 7) \text{ } (3, 9) \text{ } 6^2 + 2^2 = c^2$$

28. Complete each statement with a $<$ or $>$.

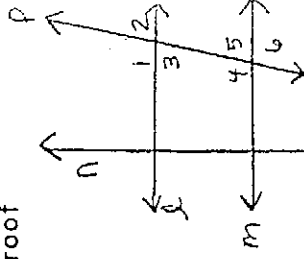
- $\angle 11 \geq \angle 8$
- $\angle 5 < \angle 9$



23. Write a two-column proof

Given: $l \perp n$, $m \perp n$

Prove: $\angle 3 + \angle 6 = 180^\circ$

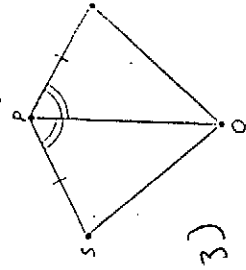


S	R
1. $l \perp n$	1. given
2. $m \perp n$	2. given
3. $l \parallel m$	3. corr. \angle s converse or explain
4. $\angle 3 + \angle 4 = 180^\circ$	4. consecutive \angle s
5. $\angle 4 = \angle 6$	5. vertical
6. $\angle 3 + \angle 6 = 180^\circ$	6. substitute (5, 4)

25. Write a two-column proof

Given: \overline{PQ} bisects $\angle SPT$, $\overline{SP} \cong \overline{PT}$

Prove: $\overline{SQ} \cong \overline{QT}$



S	R
1. \overline{PQ} bisects $\angle SPT$	1. given
2. $\overline{SP} = \overline{PT}$	2. given
3. $\angle SPQ = \angle TPQ$	3. def. bisect
4. $PQ = PQ$	4. Reflexive
5. $\triangle SPQ \cong \triangle TPQ$	5. SAS
6. $\overline{SQ} = \overline{TQ}$	6. CPCTC

