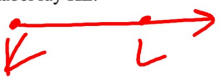
H. Geometry - Bellwork #12 **Date:** _____

1. Draw and label point W.

2. Draw and label line GH.

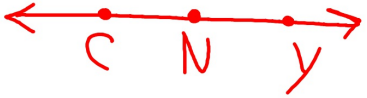
3. Draw and label line segment NP.

4. Draw and label ray KL.

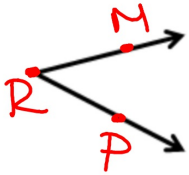


5. Draw and label ray LK.

6. Draw and label opposite rays NC and NY.



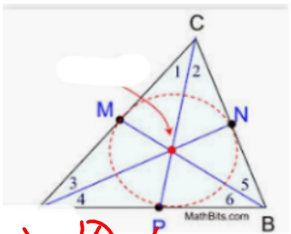
7. Label the angle below as $\angle MRP$. What two rays form this angle?



$\overrightarrow{RM}$

$\overrightarrow{RP}$

Use the diagram below to answe questions 8 – 11.



8. What is the name of the point that the arrow is pointing at?

incenter

9. What important lines of the triangle meet at this point?

$\angle$ bisectors

10. What is true about $\angle 1$ and $\angle 2$?

$\cong$

11. Find $m\angle 1$ and $m\angle 2$ if $\angle 1 = 3x - 7$ and $\angle 2 = x^2 - 17$

$3x - 7 = x^2 - 17$

$-3x \quad -3x$

$-7 = x^2 - 3x - 17$

$0 = x^2 - 3x - 10$

-10

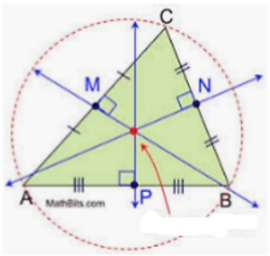
$-5 \quad 2$

-3

$(x-5)(x+2) = 0$

$x = 5$

$31.5°$ $8°$ $8°$



Use the diagram below to answer questions 12 – 15.

12. What is the name of the point that the arrow is pointing at?

circumcenter

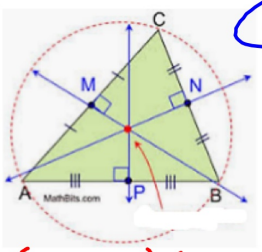
13. What important lines of the triangle meet at this point?

$\perp$ bisectors

14. What is true about $\overline{CN}$ and $\overline{NB}$?

$\cong$

15. Find CN and NB if CN = $x^2 - 15$ and NB = $-4x + 6$



34

$CN \cong NB$

$x^2 - 15 = -4x + 6$

$x^2 + 4x - 15 = 6$

$x^2 + 4x - 21 = 0$

$(x+7)(x-3) = 0$

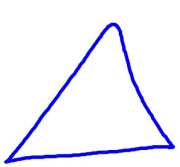
$x = -7, 3$

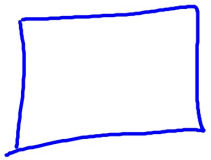
-21, -3, 7, 1

16. How is inductive reasoning different from a conjecture? Give examples if needed.

2, 4, 6, 8. . .

+ 2 (con).





H. Geometry Unit 1 Review

Vocabulary Words

Points that lie on the same line are Collinear.

Points and lines that lie on the same plane are coplanar.

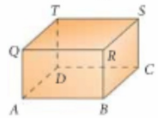
Two parts of a line are a segment and a ray.

Lines that are coplanar and do not intersect are parallel lines.

Lines in space that are not parallel and do not intersect are _____ lines.

Planes that do not intersect are parallel planes.

Use the diagram below to answer questions 1 – 5.



1. Name three lines that intersect at R. $\overleftrightarrow{QR}$ $\overleftrightarrow{SR}$ $\overleftrightarrow{BR}$

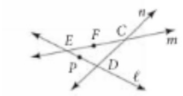
2. Points D, T, S and C are coplanar.

3. Plane QTSR is parallel to plane ABCD

4. Name a line that is parallel to $\overleftrightarrow{BC}$. $\overleftrightarrow{AD}$

5. Name a line that is skew to $\overleftrightarrow{BC}$.

Use the diagram below to answer questions 6 – 9.



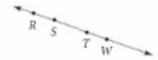
6. Name line *m* in two other ways. $\overleftrightarrow{EC}$ $\overleftrightarrow{CE}$

7. C is the intersection of which two lines? line m, n

8. Name three collinear points. E, F, C

9. Are P, E, and C collinear? NO

Use the diagram below to answer questions 10-12.



10. Name 3 line segments. $\overline{RS}$ $\overline{ST}$ $\overline{TW}$

11. Name 3 rays. $\overrightarrow{TW}$ $\overrightarrow{SR}$ $\overrightarrow{TR}$

12. Name a pair of opposite rays. $\overrightarrow{ST}$ $\overrightarrow{SR}$

Vocabulary Words

Segments with the same length are ___≅___ segments.

The ___midpt___ of a segment divides the segment into two congruent segments.

Two rays with the same endpoint form an ___∠___.

Angles with the same measure are ___≅___ angles.

Acute angles measure ___< 90°___.

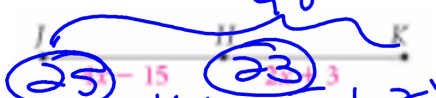
11

Obtuse angles measure ___> 90°___.

Right angles measure ___= 90°___.

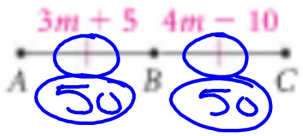
Straight angles measure ___= 180°___.

1. JK = 48. Find x, JH and HK.



48
25 23
$4x-15+2x+3=48$
$6x-12=48$
$6x=60$
$x=10$

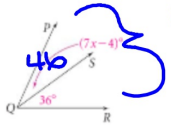
2. Find m, AB, BC, and AC.



50 50
100

$AB=BC$
$3m+5=4m-10$
$5=m-10$
$15=m$

Use the diagram below for questions 3 and 4.



4x+47

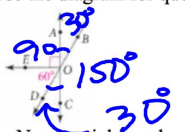
3. The $m\angle PQR = 82°$. Find $m\angle PQS$.

$7x-4+36=82$
$7x+32=82$
$7x=50$
$x=7.14$

4. Find $m\angle PQS$ if $m\angle PQR = 4x+47$.

$7x-4+36=4x+47$
$7x+32=4x+47$
$3x+32=47$
$3x=15$
$x=5$
$7(5)-4$
$=31°$

Use the diagram for questions 5 – 10.



30°
90°
150°
30°

5. Name a right angle.

$\angle EOA$

6. Name a pair of vertical angles.

$\angle DOC, \angle AOB$

7. Name a pair of complementary angles.

$\angle EOD$ $\angle DOC$

8. Name a pair of supplementary angles.

$\angle EOA$, $\angle EOC$

9. Name an angle adjacent to $\angle DOE$.

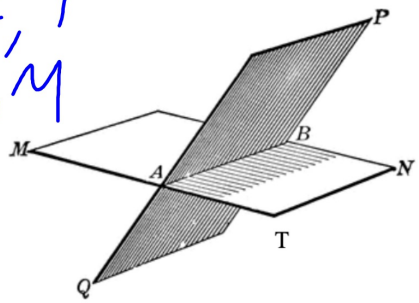
10. Given $m\angle EOD = 60°$, find all other individual angles.

Directions: Identify the following from the diagram.

3 Collinear points ___M, A, T___

3 coplanar points ___A, B, M___

a plane ___ABT___

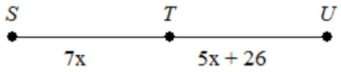


Directions: Draw and label the following correctly.

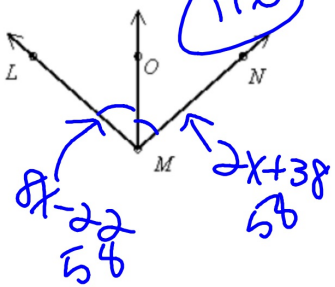
Perpendicular Bisector	**Angle Bisector**	**Obtuse Angle**
Acute Angle	**Point**	**Opposite Rays**

If $EF = 2x - 5$, $FG = 4x - 8$, and $EG = 29$, find the values of x, EF, and FG. The drawing is not to scale.

If T is the midpoint of SU, find the values of x and ST. The diagram is not to scale.



$\overrightarrow{MO}$ bisects $\angle LMN$, $m\angle LMO = 8x - 22$, and $m\angle NMO = 2x + 38$. Solve for x and find $m\angle LMN$. The diagram is not to scale.



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$8x - 22 = 2x + 38$

$6x = 60$

$x = 10$

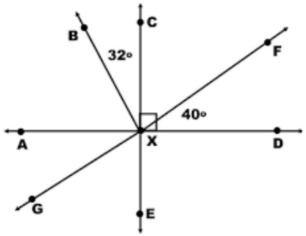
$8x - 22$

58

$2x + 38$

58

Use the diagram below.



Name a right angle. _____

Name a pair of complementary angles. _____ and _____

Name a pair of vertical angles. _____ and _____

Name a pair of supplementary angles. _____ and _____

Name a straight angle. _____

Find the measure of the angles below:

$m\angle AXB$ = _____

$m\angle CXF$ = _____

$m\angle AXG$ = _____

$m\angle EXD$ = _____

$m\angle BXG$ = _____

$m\angle BXF$ = _____