

Geometry
Semester 1 Final Exam Mixed Review

Name: _____

1) Use the figure below to name the following figures:

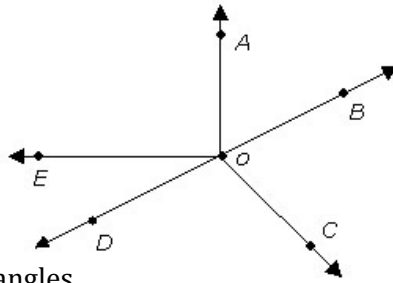
_____ a) A line

_____ b) A ray

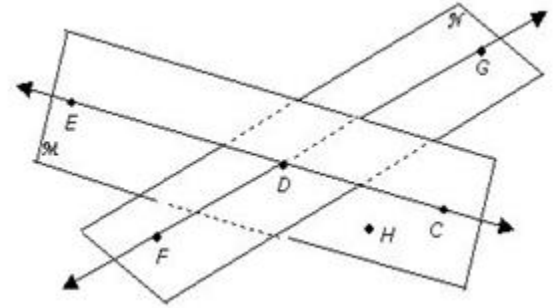
_____ c) Opposite rays

_____ d) Only adjacent angles

_____ e) Adjacent and linear pair angles



2) Identify the plane containing D, E, and C.



3) Two lines cross at _____.

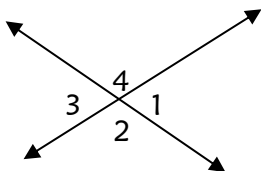
4) Two planes cross at _____.

5) $m\angle K = (6x + 12)^\circ$. Find the measure of the complement of $\angle K$.

6) $m\angle ABC = (6x + 8)^\circ$ and $m\angle DEF = (12x - 8)^\circ$
If $\angle ABC$ and $m\angle DEF$ are supplementary, find the measure of each angle.

7) If $m\angle 1 = 5x + 32$ and $m\angle 3 = 3x + 64$, find the $m\angle 4$.

8) Identify the coordinates of the midpoint $P(1, -1)$ and $Q(7, -3)$.



9) If the midpoint of AB is C, and A is (2, 5) and C is (-3, 4), find the coordinates of endpoint B.

10) Find the distance of \overline{PQ} with endpoints $P(1, -1)$ and $Q(7, -3)$.

11) Write the Following Statements:

Conditional: If it is October 31st, it is Halloween!

Inverse: _____

Converse: _____

Contrapositive: _____

Bi-Conditional: _____

12) Draw a conclusion from the given information.

Given: If it is Sunday, then tomorrow is Monday. If tomorrow is Monday, then we go back to school. If we go back to school, then we will have homework.

Conclusion: _____

13) Write the Biconditional Statement from the Conditional Statement.

Conditional: If you study hard, then you will do well in Geometry.

Biconditional: _____

14) Name the property used to make the conclusion.

A. $x = x$ _____

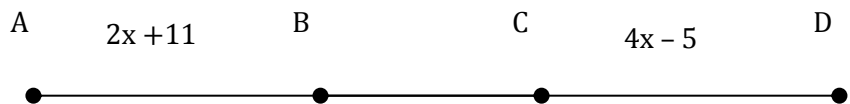
B. If $AB = CD$ and $CD = EF$, then $AB = EF$. _____

C. If $x = 4$ and $y = 2x$, then $y = 2(4)$. _____

D. If $Geo = Math$, then $Math = Geo$ _____

15) Solve for the variable using the given information.

Given: $\overline{AB} \cong \overline{BC}$, $\overline{BC} \cong \overline{CD}$



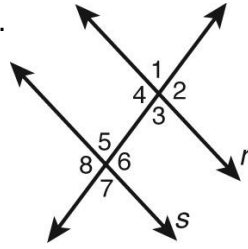
16) Two angles $\angle 7$ and $\angle 8$ are both complementary to $\angle 9$. If $m\angle 7 = 54^\circ$, what is the $m\angle 8$?

17) Find the measures of the angles.

Given: $s \parallel r$

$$m\angle 2 = (10x + 4)^\circ$$

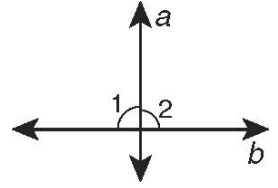
$$m\angle 6 = (8x + 28)^\circ$$



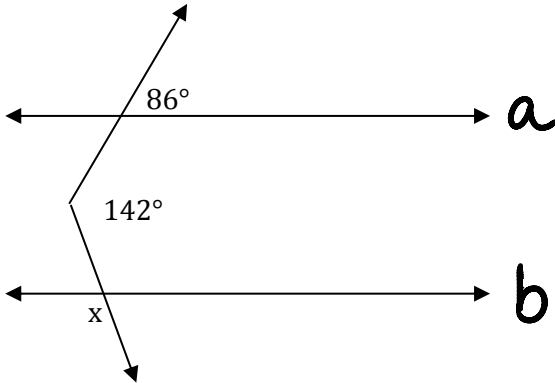
18) Given: $\angle 1$ and $\angle 2$ form a linear pair

$$\angle 1 \cong \angle 2$$

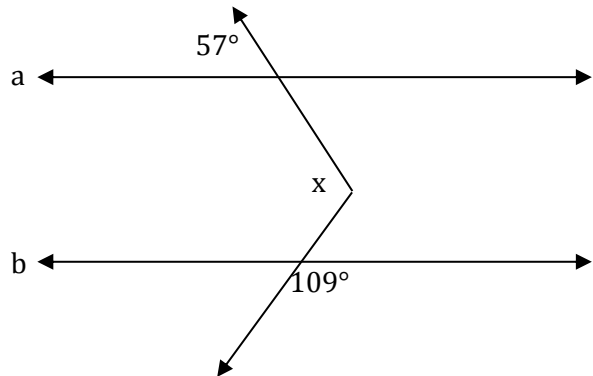
Conclusion:



19) Let line a is parallel to line b, find the value of x.



20) Let line a is parallel to line b, find the value of x.

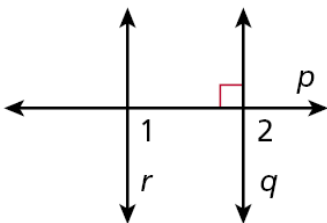


21) Solve for x and y in the following problem.

$r \parallel q$

$$m\angle 1 = (3x + y)^\circ$$

$$m\angle 2 = (2x + 3y - 5)^\circ$$



22) Find the slope given the points (-3, -6) and (12, -1)

23) Find the value of x given the points (2, x) and (12, -4) and slope = 1/2.

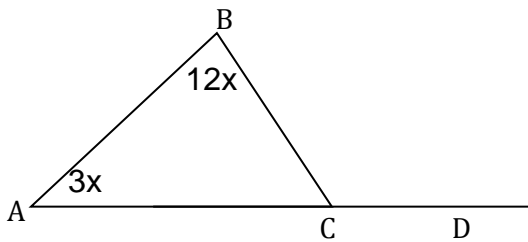
24) Write an equation of a line in slope-intercept form that passes through the points (-1,8) and (4, -2).

25) Write an equation of a line in point-slope form that passes through the points (-5, 9) and (0, -6).

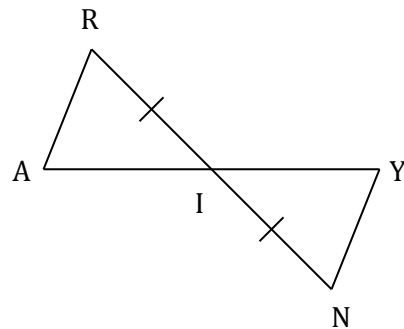
26) Write an equation of a line in slope-intercept form that is parallel to the line $y = -2x + 4$ and passes through the point (3, 5).

27) Are the lines parallel, perpendicular, or neither? $5x - 4y = 10$ and $5y = -4x - 6$.

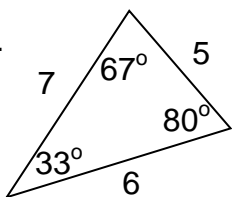
28) If $m\angle BCD = 150^\circ$ find $m\angle B$.

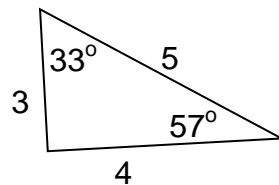


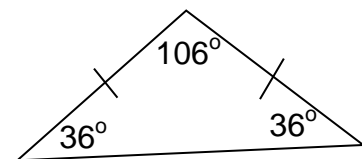
29) Given: I is the midpoint of \overline{AY}
 Prove: $\triangle ARI \cong \triangle YNI$



30) Classify each triangle by its ANGLES and SIDES.

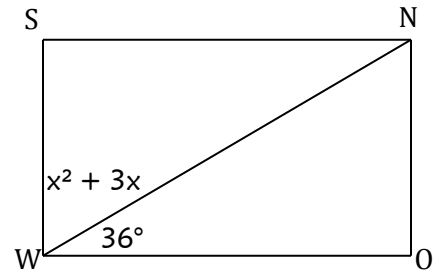




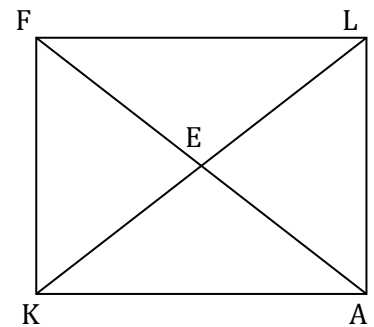


31) The measures of three angles of a triangle are in the ratio of 2:3:4. Find the measure of the largest angle.

32) SNOW is a rectangle. Find OW if $SN = -2x + 5$.

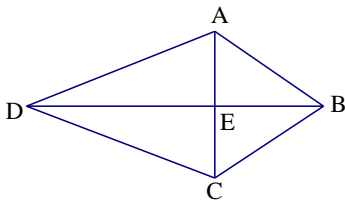


33) FLAK is a square. If $m\angle ELF = x + 2y + 6$ and $m\angle KEA = 2x + 5y$, solve for x and y .



34) Given ABCD is a kite with $\overline{AB} \cong \overline{BC}$.

$AE = 3x - 1$ and $\angle AEB = 4x + 10$, what is AC?



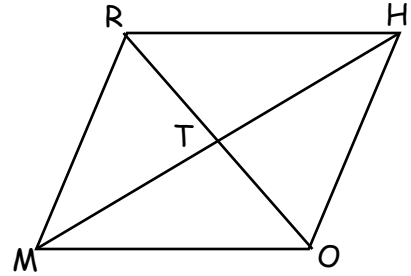
35) Given: ABCD is a parallelogram

$$m\angle A = x + 62$$

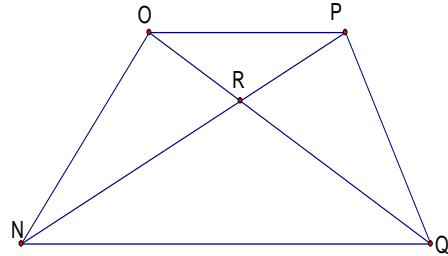
$$m\angle B = 3x + 2$$

Find: $m\angle D$

- 36) Given: Rhombus RHOM
 $m\angle MOH = (11x + 21)$
 $m\angle MRO = (7x - 3)$
 $RH = 2x - 7$
 Find the perimeter.



- 37) NOPQ is an isosceles trapezoid.
 $m\angle PQN = 80^\circ$
 $m\angle ONR = (10x - 2)^\circ$
 $m\angle PNQ = (20x + 4)^\circ$
 Find: x and $m\angle OPQ$



Always, Sometimes, Never?

- 38) A rectangle is a square. 39) An isosceles trapezoid is a square 40) A kite is a parallelogram.
- 41) The diagonals of a rhombus form four isosceles right triangles. 42) The supplement to an acute angle is acute.
- 43) If two angles are congruent and complementary, then each angle measures 45° . 44) An obtuse angle has a supplement.
- 45) Three vertices of \square GEOM are $G(2, -6)$, $E(-1, 2)$, and $O(5,3)$.
 Find the coordinates of vertex M.

