Name _____ Class _____

Foundations of Geometry Study Guide

Write *true* or *false*. If a statement is false, fix the statement so that it is true!

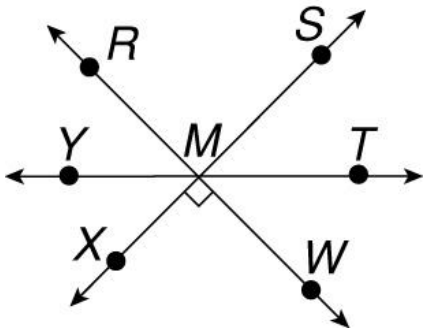
1) Angle *RMT* is an obtuse angle.

2) $\angle YMX$ and $\angle SMT$ are supplementary angles.

3) If $m\angle SMT = 48°$, then $m\angle TMW = 48°$.

4) $\angle WMY$ and $\angle RMY$ are supplementary angles.

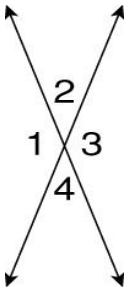
5) $\angle XMY$ and $\angle YMR$ are complementary angles.



Use the diagram to find each angle measure.

6) If $m\angle 1 = 118°$, find $m\angle 3$.

7) If $m\angle 2 = 35°$, find $m\angle 3$.

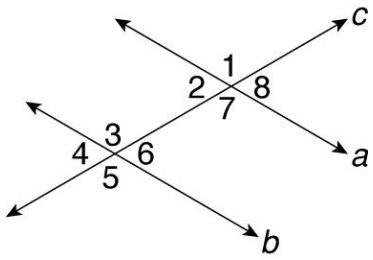


In the figure, line *a* || line *b*.

8) If $m\angle 7$ is 131°, what is the $m\angle 8$?

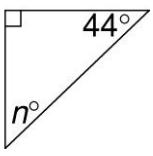
9) If $m\angle 4$ is 57°, what is the $m\angle 5$?

10) If $m\angle 3$ is 127°, what is the $m\angle 8$?

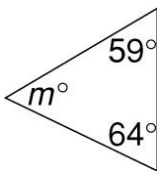


Classify each triangle by its <u>sides</u> and its <u>angles</u>. Then find the value of each variable.

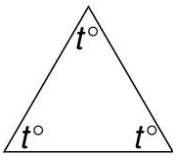
11)



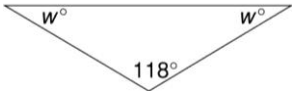
12)



13)



14)



Find the sum of the angle measures in each regular polygon.

15) 24-gon

16) 16-gon

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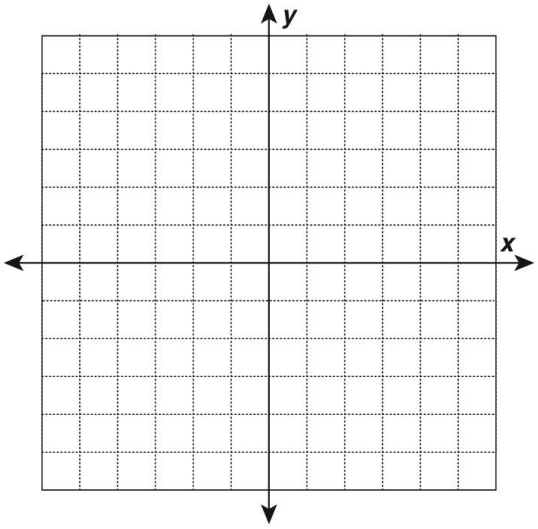
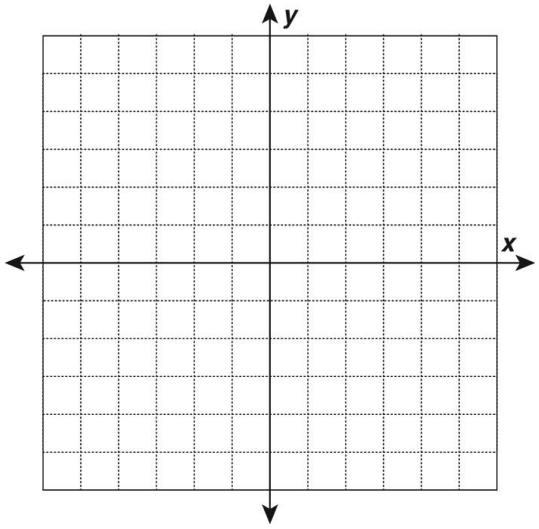
Graph the given vertices on a coordinate plane. Connect the points to draw a polygon and classify it by the number of its sides.

17) (1, 5), (4, 2), (4, –2), (1, –5), (–3, –5), (–5, –2), (–5, 2), (–3, 5)

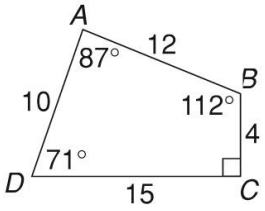


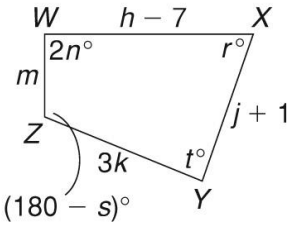
18) (0, –1), (–1, 3), (2, 5), (5, 3), (4, –1)



19) What is a regular polygon?

In the figure, quadrilateral *ABCD* ≅ quadrilateral *YZWX*.





20) Find *m*.

21) Find *h*.

22) Find *j*.

23) Find *k*.

24) Find *n*.

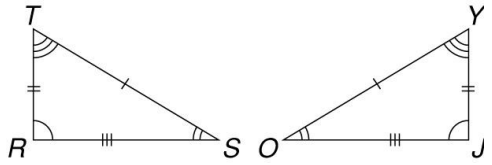
25) Find *s*.

26) Find *t*.

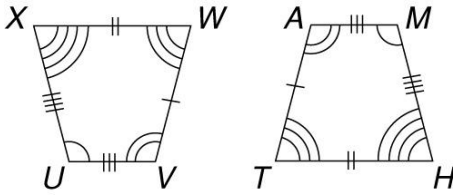
27) Find *r*.

Write a congruence statement for the congruent figures below.

28)



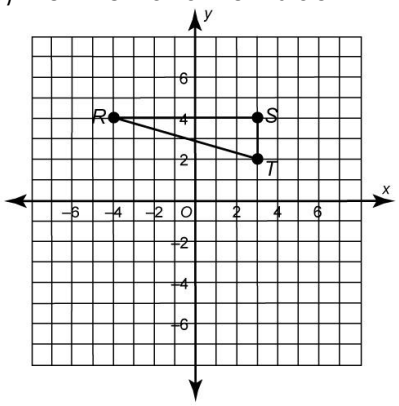
29)



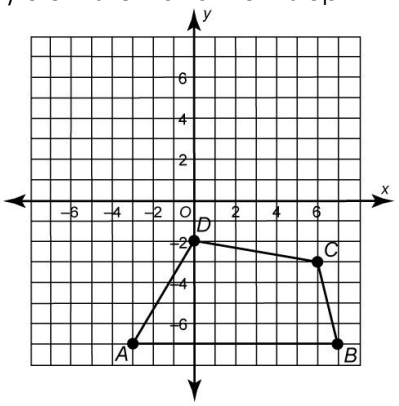
Name _____ Class _____

Graph each translation.

30) 1 unit left and 4 units down

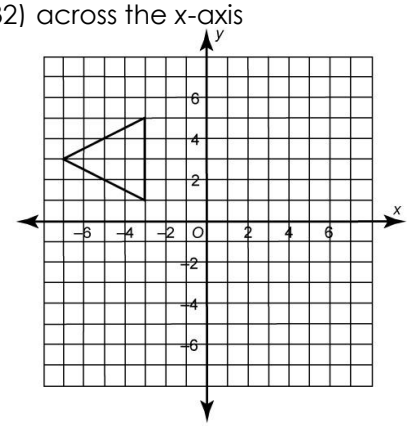


31) 3 units left and 2 units up

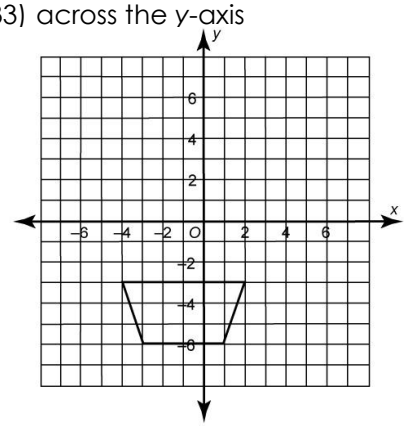


Graph each reflection.

32) across the x-axis

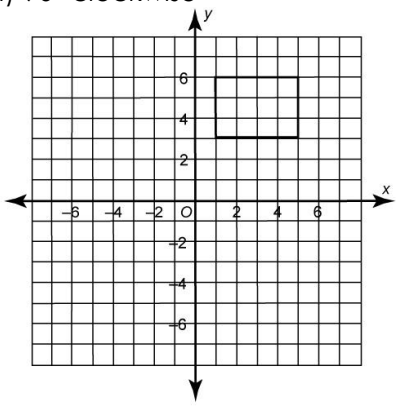


33) across the *y*-axis

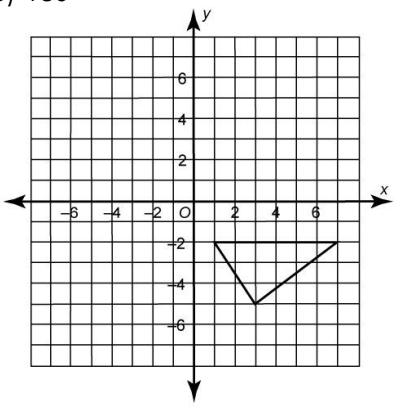


Graph each rotation around the origin.

34) 90° clockwise



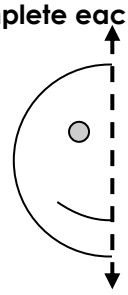
35) 180°



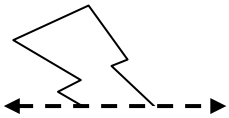
36) A trapezoid has vertices $Q(-2, 5)$, $R(3, 5)$, $S(6, 1)$, and $T(-2, 1)$. After a transformation, the coordinates of the image are $Q'(-5, -2)$, $R'(-5, 3)$, $S'(-1, -2)$, and $T'(-1, 6)$. Describe the transformation.

Complete each figure.

37)



38)



39) 4-fold

40) 2-fold