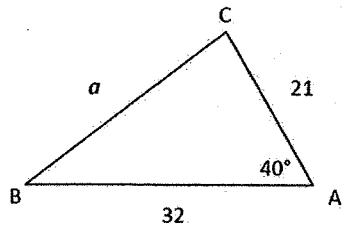
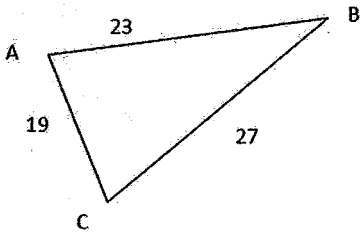
The Law of Cosines

Find the length of a.

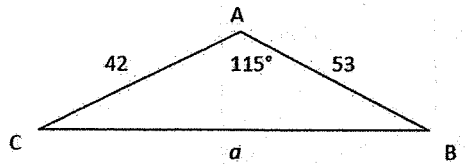


Find m∠A.

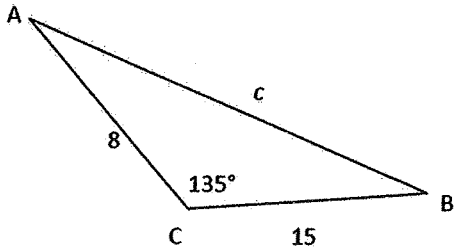


For ΔABC, find the length of c given $a = 17, b = 26$, and m∠C = 124°. Draw and label a triangle.

1. For ΔABC find a to the nearest hundredth.

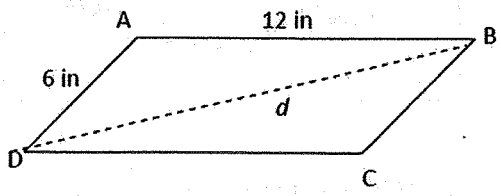


2. For ΔABC find c to the nearest hundredth.



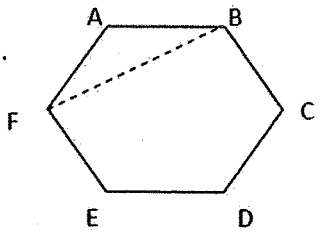
3. For ΔABC find the length of c to the nearest hundredth, given $a = 54, b = 47$, and m∠C = 85°.

4. Find the length of the diagonal, d, of the parallelogram below to the nearest inch.

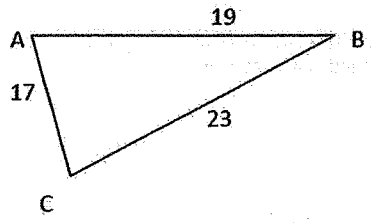


5. A regular hexagon has side lengths of 15 cm.

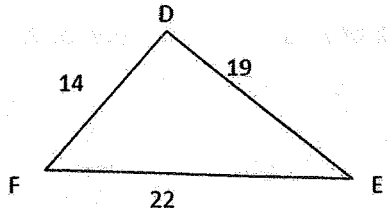
Find FB to the nearest cm.



6. For ΔABC find $m\angle A$ to the nearest tenth of a degree.

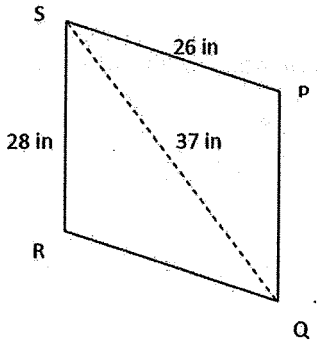


7. For ΔDEF find $m\angle E$ to the nearest tenth of a degree.

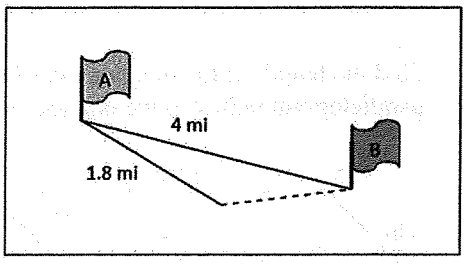


8. For ΔDEF find $m\angle F$ to the nearest tenth, given $d = 38, e = 42,$ and $f = 47$.

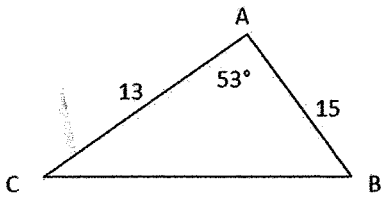
9. Find $m\angle P$ for the parallelogram below to the tenth of a degree.



10. Mary is orienteering across a large flat plain from Marker A to Marker B which are 4 miles apart. After walking 1.8 miles she realizes she is 6° off-course. To the nearest tenth of a mile, how far from Marker B is she when she realizes her error?



11. For ΔABC find $m\angle B$ to the nearest degree.

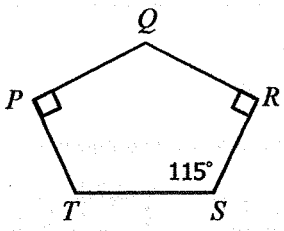


Geometry Review

Name: _____

Date: _____ Per: _____

1. Given the polygon below, if $\angle T \cong \angle S$, find $m\angle Q$.



A. 120°
B. 125°
C. 130°
D. 135°

2. The sum of the interior angle measures of a polygon is 3,420°. How many sides does the polygon have?

sides

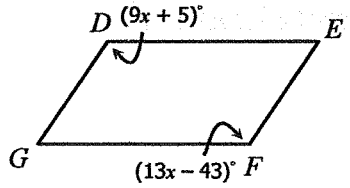
3. If the exterior angle of a regular octagon measures $(11x + 1)°$, find the value of x.

$x =$

4. In which figure are the diagonals congruent but not necessarily perpendicular?

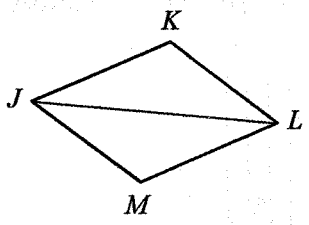
A. Parallelogram
B. Rhombus
C. Rectangle
D. Square

5. Given parallelogram $DEFG$, find $m\angle G$.



A. 67°
B. 71°
C. 109°
D. 113°

6. In rhombus $JKLM$, if $m\angle KLJ = 38°$, find $m\angle JML$.

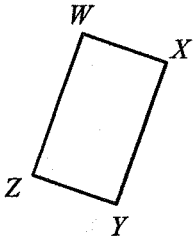


A. 98°
B. 104°
C. 112°
D. 142°

7. What is the approximate perimeter of a rhombus with diagonals that measure 12 feet and 18 feet?

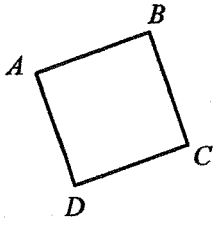
A. 39.8 feet
B. 43.3 feet
C. 58.5 feet
D. 60 feet

8. If $WXYZ$ is a rectangle, Z is located at (-4, -5) and Y is located at (-1, -7), find the slope of $\overline{WZ}$.



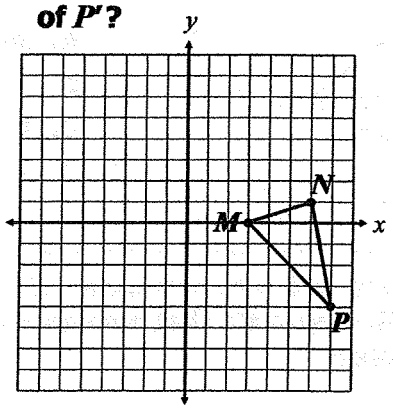
A. $\frac{2}{3}$
B. $\frac{3}{2}$
C. $-\frac{2}{3}$
D. $-\frac{3}{2}$

9. If the diagonals of square $ABCD$ intersect at (5, 1) and point A is located at (2, 3), find the approximate length of $\overline{BD}$.



A. 7.2
B. 9.5
C. 10.4
D. 12.8

10. If ΔMNP is reflected across the line $y = 2$, then translated using the rule $(x + y) \rightarrow (x - 8, y - 1)$, what are the coordinates of P'?

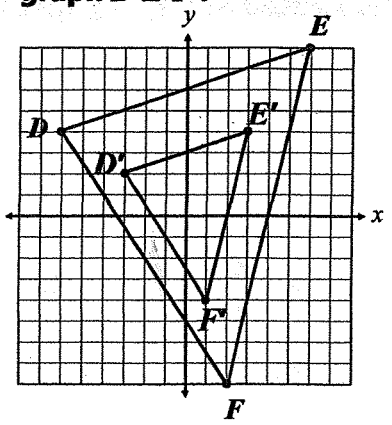


(,)

11. Quadrilateral $STUV$ is rotated 270° counterclockwise about the origin. If the coordinates of V were (3, -4), what are the coordinates of V'?

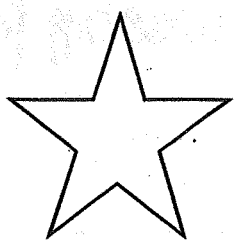
A. (-3, 4)
B. (-4, -3)
C. (4, -3)
D. (4, 3)

12. Identify the scale factor that was used to graph $D'E'F'$.



A. 2
B. 3
C. $\frac{1}{2}$
D. $\frac{1}{3}$

13. The figure below has what type of symmetry?



do not do!

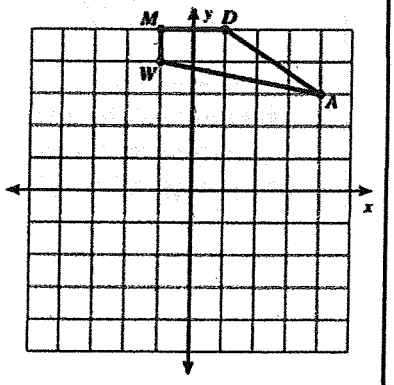
A. Line symmetry only
B. Point symmetry only
C. Both point and line symmetry
D. Neither point nor line symmetry

14.

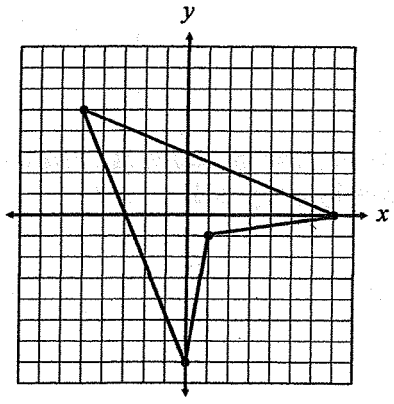
a. **Rotate the figure 90° clockwise.**

b. **Translate the result left four units and up two units.**

c. **Reflect across $x = -2$**



15. Which of the following is a line of reflection for the image shown on the graph?



A. $x = 1$
B. $y = 1$
C. $y = x$
D. $y = -x$