

Name _____

Transformation TH HW 5

1. The following are the steps to constructing a hexagon, but they are scrambled. Write the numbers of the steps:

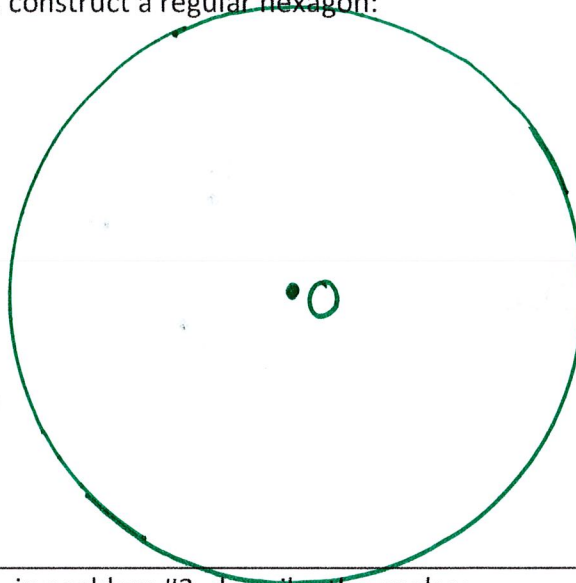
_____ Connect adjacent points with a straightedge.

_____ Starting with circle O, mark A anywhere on the circle. Place your compass on O and measure to A: you are finding the length of the **radius OA**

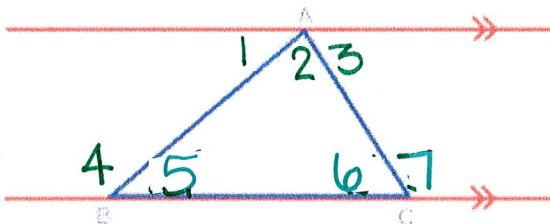
_____ Do not change your compass: place compass on B and repeat this process around the circle until you end at A.

_____ With your compass set to the length of the radius, place your compass on A and make an arc intersecting the circle. Call this intersection B

2. construct a regular hexagon:



3. solve for the missing angles.



$m\angle 1$ _____ $m\angle 2$ _____ $m\angle 4$ _____ $m\angle 6$ _____

$m\angle 5 = 34^\circ$ $m\angle 6 = 68^\circ$

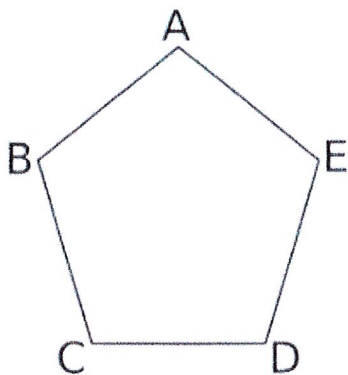
4. in problem #3, describe the angles:

$\angle 4$ and $\angle 5$ _____
 $\angle 1$ and $\angle 7$ _____

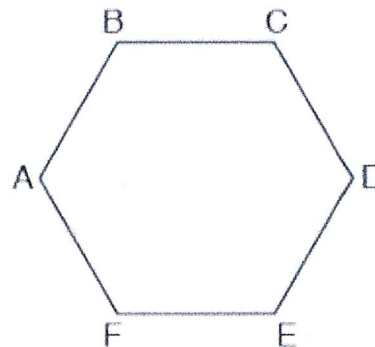
Linear pair
 SSEA
 SSIA

VA
 AIA
 AEA
 CA

5. If you rotate the pentagon 144° counterclockwise, name the image of \overline{DE} _____



6. Name the angle of rotation that would map point D onto point F (counterclockwise!) _____



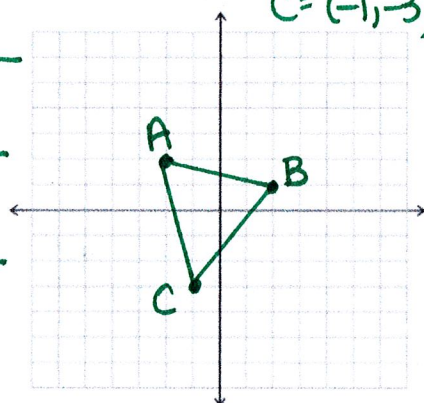
7. Dilate with a scale factor of 2 with center (0,0)
Name the parallel sides: $A = (-2, 2)$ $B = (2, 1)$

$C = (-1, -3)$

$\overline{AB} //$ _____

$\overline{AC} //$ _____

$\overline{BC} //$ _____



8 write the equation of a line that is perpendicular to $y = -2x - 6$ and passes through $(-10, 24)$

9

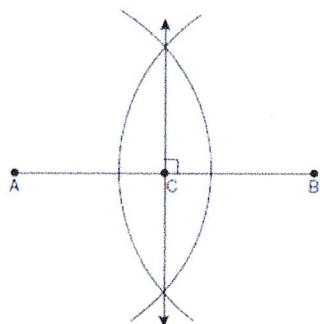
Which description MOST accurately describes a dilation?

- A. When a shape is dilated, the parallel lines remain parallel.
- B. When a shape is dilated, the angles within the shape change.
- C. When a shape is dilated, the orientation of the shape changes.
- D. When a shape is dilated, the distance between points remains the same.

10 Write the equation of a line that is parallel to $y = -\frac{2}{3}x - 17$ that passes through $(12, 25)$

11

11. The diagram below shows the construction of the perpendicular bisector of \overline{AB}



Which statement is *not* true?

- 1) $AC = CB$
- 2) $CB = \frac{1}{2} AB$
- 3) $AC = 2AB$
- 4) $AC + CB = AB$

12 name the construction: _____

