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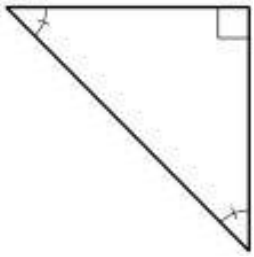
Assessment

Constructions and Rigid Transformations: End-of-Unit Assessment

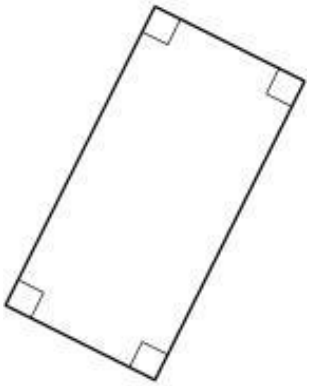
You may use construction tools, a protractor, and your reference chart.

1. Select **all** the figures with 180-degree rotation symmetry.

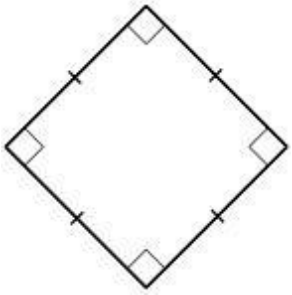
A



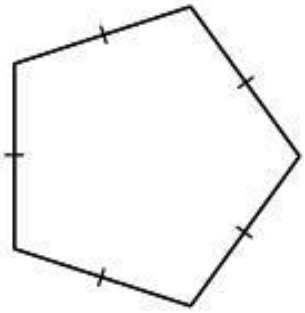
B



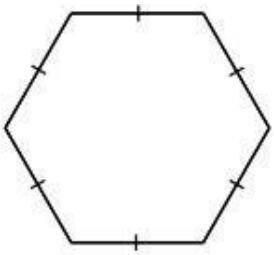
C



D



E



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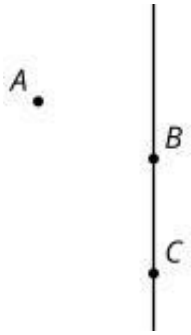
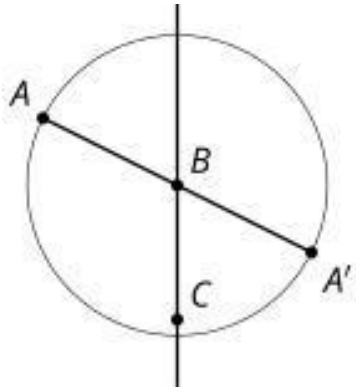
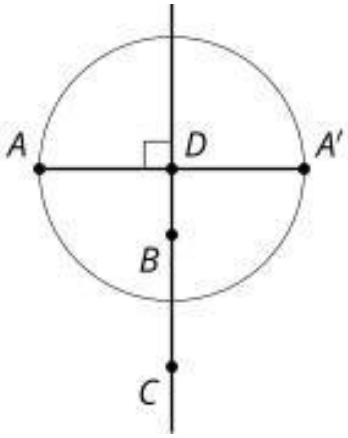
2. Select the construction that guarantees A' is a reflection of point A across line BC.



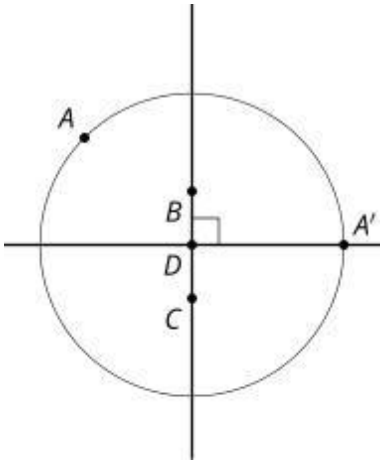
Construction A



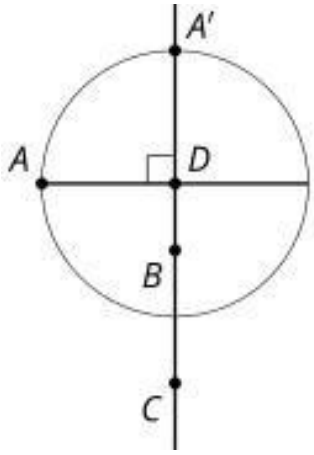
Construction B



5. Construction C



Construction D



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A. Construction A

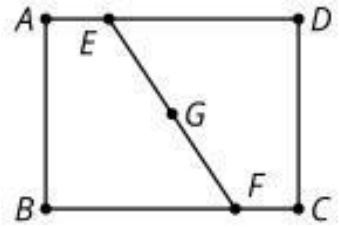
B. Construction B

C. Construction C

D. Construction D

3. *ABCD* is a rectangle. Trapezoid *AEFB* is congruent to trapezoid *CFED*. *G* is the midpoint of segment *EF*.

Select **all** the ways we could describe the rigid transformation that takes *AEFB* to *CFED*.



A. Reflect *AEFB* across line *EF*.

B. Rotate *AEFB* 180 degrees counterclockwise around point *G*.

C. Rotate *AEFB* 180 degrees clockwise around point *G*.

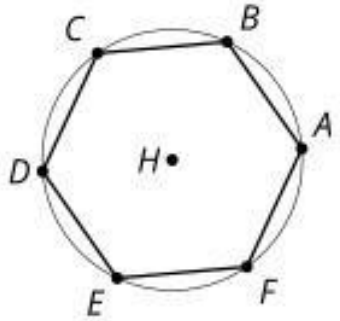
D. Translate *AEFB* by the directed line segment from *F* to *E*, and then reflect across line *FE*.

E. Translate *AEFB* by the directed line segment from *F* to *E*, and then rotate 180 degrees clockwise around point *E*.

4. Regular hexagon *ABCDEF* is inscribed in a circle with center *H*.

a. What is the image of segment *BC* after a 120-degree clockwise rotation about point *H*?

b. What is the image of segment *BC* after a reflection over line *FC*?



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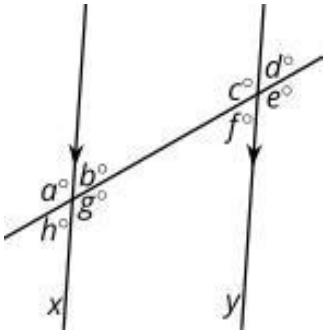
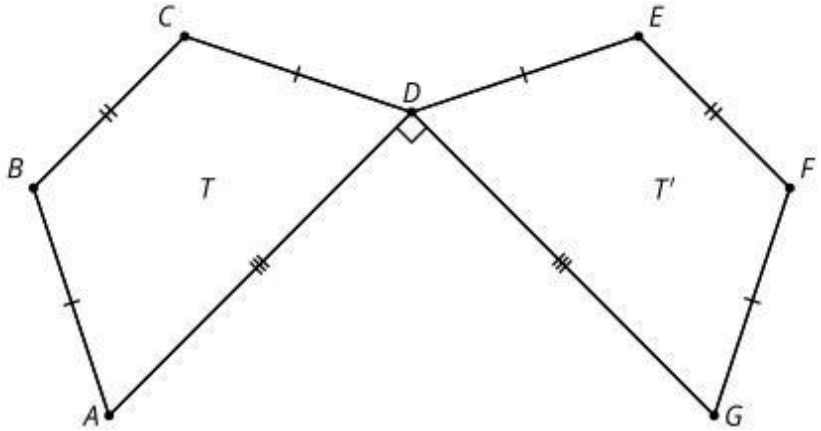
5. Lines x and y are parallel.

Write an equation that represents the relationship between b and e. Explain how you know this equation is always true.



6. Describe a sequence of transformations that take isosceles trapezoid T to its image T'.



7. Explain why $a + b = d$.