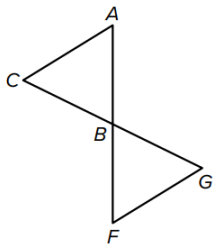
Congruence and Similarity

1) Complete the proof below.

Given: $\angle A \cong \angle F$

B is the midpoint of $\overline{AF}$.

Prove: $\Delta ABC \cong \Delta FBG$



	Statements	Reasons
1.	$\angle A \cong \angle F$	Given
2.	B is the midpoint of $\overline{AF}$.	Given
3.	?	Midpoint Theorem
4.	$\angle ABC \cong \angle FBG$	?
5.	$\Delta ABC \cong \Delta FBG$	?

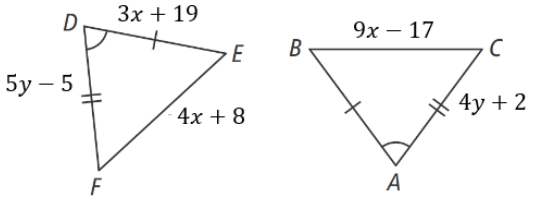
A. Statement 3: $\overline{AB} \cong \overline{AC}$
Reason 4: Vertical Angles Theorem
Reason 5: ASA

B. Statement 3: $\overline{AB} \cong \overline{FB}$
Reason 4: Reflexive Property
Reason 5: AAS

C. Statement 3: $\overline{AB} \cong \overline{FB}$
Reason 4: Vertical Angles Theorem
Reason 5: ASA

D. Statement 3: $\overline{AB} \cong \overline{AC}$
Reason 4: Reflexive Property
Reason 5: AAS

2) In the figure shown, what is the value of x and y?



A. $x = 5$ and $y = 7$

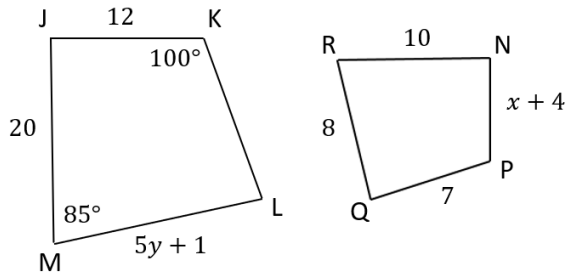
B. $x = 6$ and $y = 7$

C. $x = 7$ and $y = 6$

D. $x = 6$ and $y = 5$

Congruence and Similarity

3) In the figure below quadrilateral $JKLM$ is similar to quadrilateral $NPQR$. Select All the true statements.



A. $x = 2$

B. $x = 6$

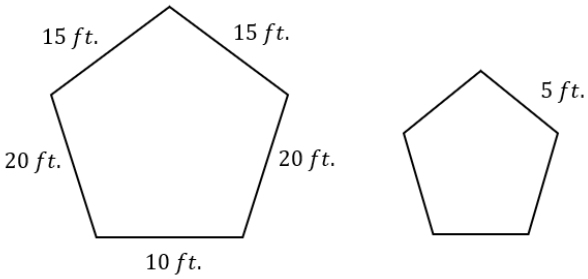
C. $y = 3$

D. $m\angle P = 50°$

E. $m\angle R = 85°$

4) The city aquarium has a Koi pond in the shape of a pentagon. Shahin wants to build a similar Koi pond in his back yard.

Drawings of both ponds are shown below.



Aquarium Koi Pond **Shahin's Koi Pond**

Note: Figures not drawn to scale.

What is the perimeter of Shahin's Koi pond?

A. $8.3\ ft.$

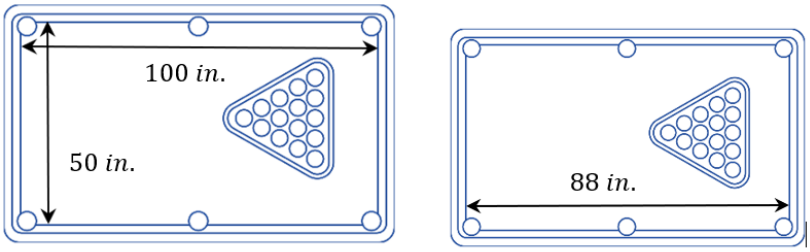
B. $25\ ft.$

C. $26.7\ ft.$

D. $80\ ft.$

Congruence and Similarity

5) Jorge is planning to buy a pool table for his new home. He knows that regulation pool tables are similar. A 9-foot table has a rectangular playing surface that is 100 inches long and 50 inches wide. He is considering an 8-foot table that has a rectangular playing surface that is 88 inches long. Find the area of the playing surface of the 8-feet pool table.



$9 - foot\ table.$ $8 - foot\ table.$

Note: Figures not drawn to scale.

A. $5{,}682\ in.^2$

B. $5{,}000\ in.^2$

C. $4{,}400\ in.^2$

D. $3{,}872\ in.^2$