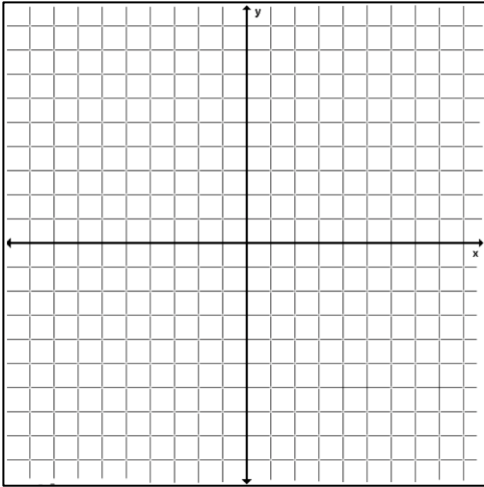
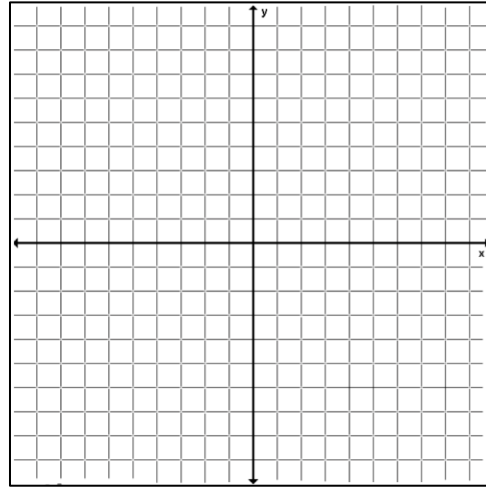


**Target 3: Apply Properties of Triangle Congruence**

1) Is  $\triangle ABC \cong \triangle DEF$ ?  
 $A(2, 8), B(-1, 6), C(5, 3)$   
 $D(-6, -2), E(-3, 0), F(-9, 3)$



2) Assuming  $\triangle ABC \cong \triangle DEF$ , find the values of  $j$  and  $k$ .  
 $A(4, 0), B(2, -6), C(9, -5)$   
 $D(1, -1), E(-5, 1), F(j, k)$



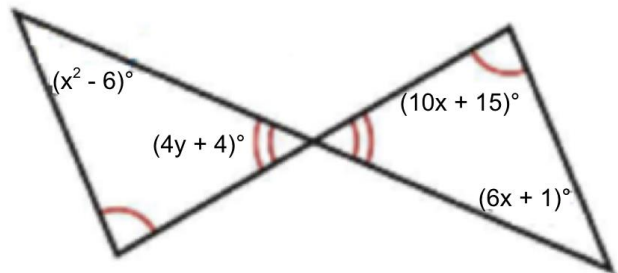
$j = \underline{\hspace{2cm}}$      $k = \underline{\hspace{2cm}}$

3) Given  $\triangle TVW \cong \triangle GHK$  and  $m\angle V = 98^\circ$ , which of the following are true?

Select all that apply.

- (A)  $m\angle K = 98^\circ$
- (B)  $m\angle H = 98^\circ$
- (C)  $m\angle G < 90^\circ$
- (D)  $\triangle VWT \cong \triangle HKG$
- (E)  $\triangle WVT \cong \triangle KGH$

4) Find the values of  $x$  and  $y$ .



$x = \underline{\hspace{2cm}}$      $y = \underline{\hspace{2cm}}$

5)  $\triangle MNO \cong \triangle PQR$ . If  $m\angle P = x^2 - 3$ ,  $m\angle M = 8x + 6$ , and  $m\angle Q = 6x + 11$ . Find  $x$  and  $m\angle R$ .

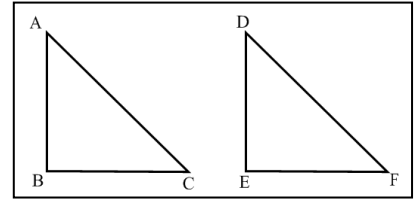
$x = \underline{\hspace{2cm}}$      $m\angle R = \underline{\hspace{2cm}}$

6)  $\triangle ABC \cong \triangle DEF$ . If  $AC = 2x^2 - 3$ ,  $DF = x^2 + 4x - 6$ , and  $EF = 3x$ . Find  $x$  and  $EF$ .

$x = \underline{\hspace{2cm}}$      $EF = \underline{\hspace{2cm}}$

Target 4: Prove triangles are congruent using the third angle theorem, SSS, HL, SAS, ASA, and AAS

Use the diagram to answer questions 7 and 8. State the congruence that is needed to prove  $\triangle ABC \cong \triangle DEF$  using the given postulate or theorem. Select all that apply.



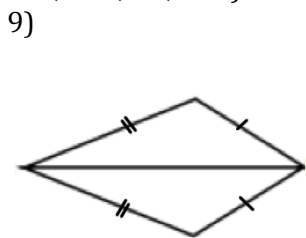
7) Given:  $\overline{AC} \cong \overline{DF}$ ,  $\angle B$  &  $\angle E$  are right angles Use HL.

- (A)  $\overline{AB} \cong \overline{DE}$       (B)  $\overline{CA} \cong \overline{FD}$       (C)  $\angle A \cong \angle D$       (D)  $\angle C \cong \angle F$       (E)  $\overline{CB} \cong \overline{FE}$

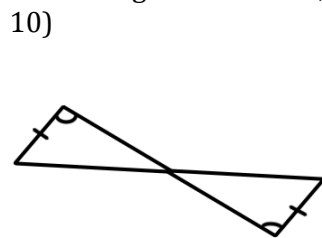
8) Given:  $\angle A \cong \angle D$ ,  $\angle C \cong \angle F$ ; Use ASA

- (A)  $\overline{AB} \cong \overline{DE}$       (B)  $\overline{CB} \cong \overline{FE}$       (C)  $\angle A \cong \angle D$       (D)  $\angle C \cong \angle F$       (E)  $\overline{CA} \cong \overline{FD}$

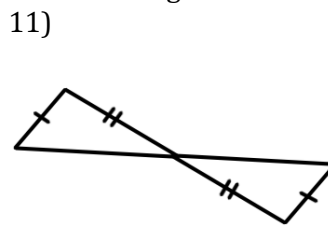
Directions: Determine which of the triangles are congruent. If the triangles are congruent, state a reason (SSS, SAS, ASA, HL, AAS). If there is not enough information, write "not enough information".



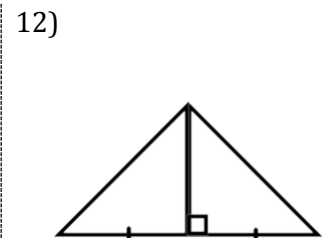
Congruent? YES or NO  
Reason? \_\_\_\_\_



Congruent? YES or NO  
Reason? \_\_\_\_\_



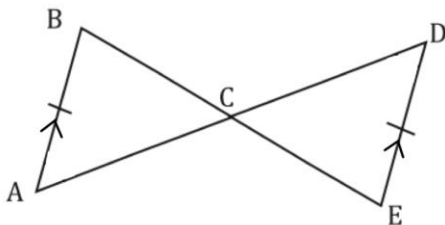
Congruent? YES or NO  
Reason? \_\_\_\_\_



Congruent? YES or NO  
Reason? \_\_\_\_\_

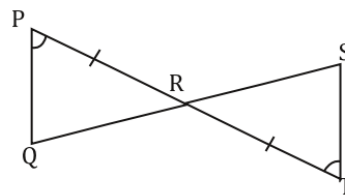
Free Response

13) Given:  $\overline{AB} \cong \overline{DE}$ ,  
 $\overline{AB} \parallel \overline{DE}$   
Prove:  $\triangle ABC \cong \triangle DEC$



Statements	Reasons
(1)	(1)
(2)	(2)
(3)	(3)
(4)	(4)
(5)	(5)

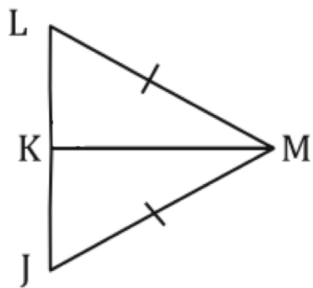
14) Given:  $\overline{PR} \cong \overline{TR}$ ,  $\angle P \cong \angle T$   
Prove:  $\overline{PQ} \cong \overline{TS}$



Statements	Reasons
(1)	(1)
(2)	(2)
(3)	(3)
(4)	(4)
(5)	(5)

15) Given:  $\overline{ML} \cong \overline{MJ}$ ,  $\overline{KM} \perp \overline{LJ}$

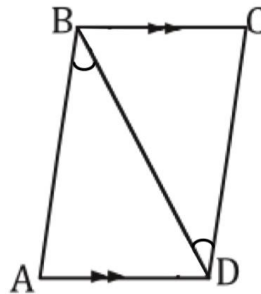
Prove:  $\triangle MKL \cong \triangle MKJ$



Statements	Reasons
(1)	(1)
(2)	(2)
(3)	(3)
(4)	(4)
(5)	(5)
(6)	(6)

16) Given:  $\overline{BC} \parallel \overline{AD}$ ,  
 $\angle ABD \cong \angle CDB$

Prove:  $\overline{BC} \cong \overline{AD}$



Statements	Reasons
(1)	(1)
(2)	(2)
(3)	(3)
(4)	(4)
(5)	(5)
(6)	(6)