

Name: Key

Chap 7 and 8 REVIEW

Study all of your Chapter 7 and 8 Notes, HW, and Review

1. Rotate $\triangle ABC$ whose coordinates are $A(3, 2)$, $B(3, 6)$, $C(6, 1)$ 90° counterclockwise about the origin and then Reflect it over the Y axis.

$$A'(-2, 3)$$

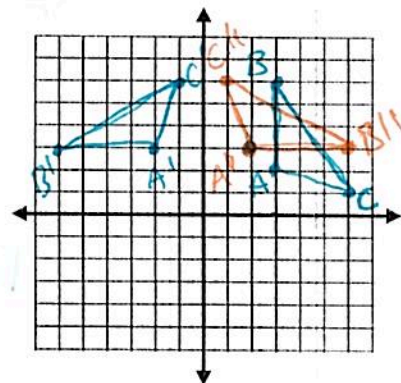
$$B'(-6, 3)$$

$$C'(-1, 6)$$

$$A''(2, 3)$$

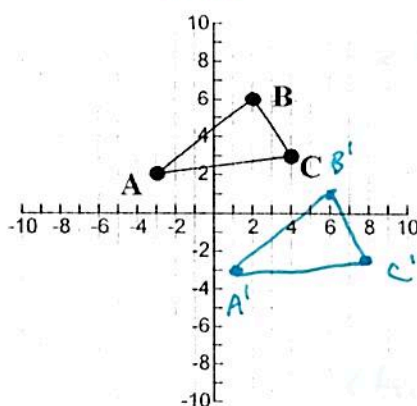
$$B''(6, 3)$$

$$C''(1, 6)$$



2. Find the image of $\triangle ABC$ after a translation of $\langle 4, -5 \rangle$

$$\begin{aligned} A' &= (1, -3) \\ B' &= (8, -2) \\ C' &= (6, 1) \end{aligned}$$

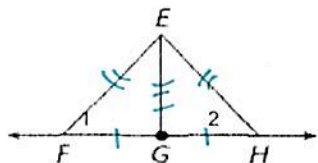


3. Proof

Given: G is the midpoint of \overline{FH} .

$$\overline{EG} \cong \overline{EG}$$

Prove: $\angle 1 \cong \angle 2$



1. G is the midpoint of \overline{FH}
 $\overline{FG} \cong \overline{GH}$
2. $\overline{FG} \cong \overline{GH}$
3. $\overline{EG} \cong \overline{EG}$
4. $\triangle FEG \cong \triangle HEG$
5. $\angle 1 \cong \angle 2$

1. Given
2. Def. of midpoint
3. Reflexive
4. SSS
5. CPCTC

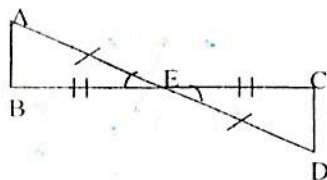
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#4-11. For each pair of triangles, tell which postulate, if any, can be used to prove the triangles congruent.

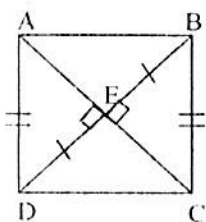
4. $\triangle AEB \cong \triangle DEC$

SAS



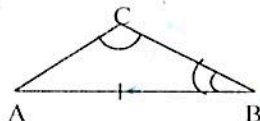
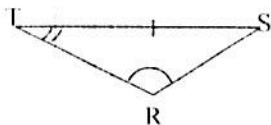
6. $\triangle DEA \cong \triangle BEC$

HL



8. $\triangle RTS \cong \triangle CBA$

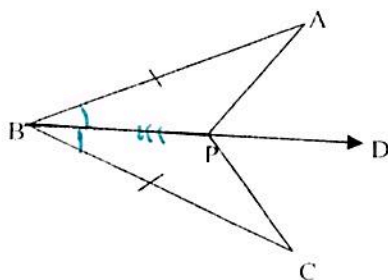
AAS



10. $\triangle BAP \cong \triangle BCP$

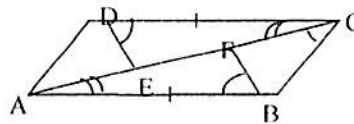
SAS

Given: \overrightarrow{BD} bisects $\angle ABC$



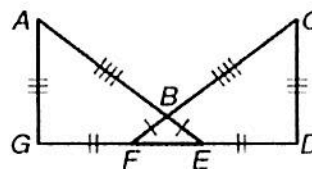
5. $\triangle CDE \cong \triangle ABF$

ASA



7. $\triangle AGE \cong \triangle CDF$

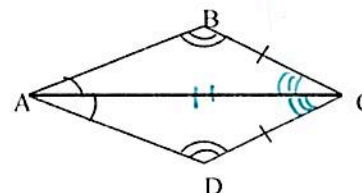
SSS



9. $\triangle ABC \cong \triangle ADC$

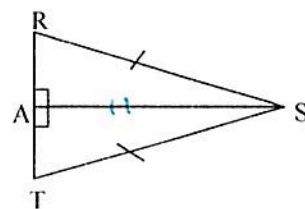
AAS

or
ASA
SAS



11. $\triangle SAT \cong \triangle SAR$

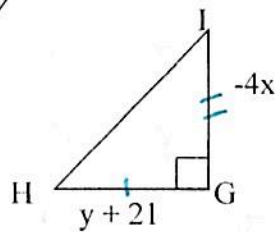
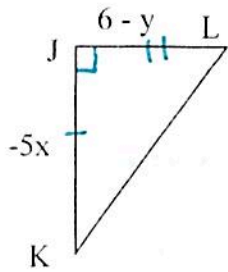
HL



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12. What is the length of \overline{GH} , if $\triangle GHI \cong \triangle JKL$?



~~Handwritten scribbles~~

$$y+21 = -5x$$

$$y = -5x - 21$$

$$6 - y = -4x$$

$$6 - (-5x - 21) = -4x$$

$$6 + 5x + 21 = -4x$$

$$\frac{27}{-9} = \frac{-9x}{-9}$$

$$\boxed{-3 = x}$$

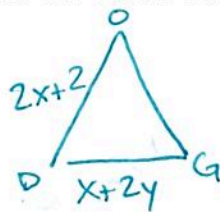
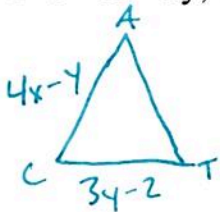
$$y + 21 = -5(-3)$$

$$y + 21 = 15$$

$$\boxed{y = -6}$$

$$\boxed{\overline{GH} = -6 + 21 = 15}$$

13. If $\triangle CAT \cong \triangle DOG$, $CA = 4x - y$, $CT = 3y - 2$, $DO = 2x + 2$ and $DG = x + 2y$, find the value of x and y .



$$4x - y = 2x + 2$$

$$3y - 2 = x + 2y$$

$$4(y - 2) - y = 2(y - 2) + 2$$

$$y - 2 = x$$

$$4y - 8 - y = 2y - 4 + 2$$

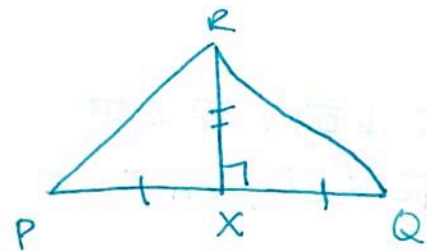
$$6 - 2 = x$$

$$3y - 8 = 2y - 2$$

$$\boxed{y = 6}$$

$$\boxed{x = 4}$$

14. What conjecture can you make if X is the midpoint of \overline{PQ} and $\overline{RX} \perp \overline{PQ}$?
(draw a picture first)



A. $\triangle RXQ \cong \triangle RPQ$ by ASA congruence.

B. $\triangle PRX \cong \triangle QRX$ by SAS congruence.

C. $\triangle RXP \cong \triangle XQP$ by HL congruence.

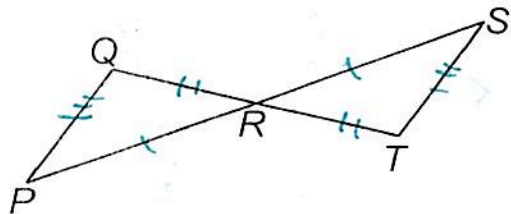
D. The triangles are not congruent.

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15. Given: R is the midpoint of \overline{PS}
 R is the midpoint of \overline{QT}
 $\overline{PQ} \cong \overline{ST}$

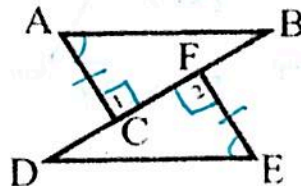
Prove: $\angle P \cong \angle S$



1. R is the midpoint of \overline{PS}
2. R is the midpoint of \overline{QT}
3. $\overline{PR} \cong \overline{SR}$
4. $\overline{QR} \cong \overline{SR}$, $\overline{QR} \cong \overline{RT}$
5. $\triangle PRQ \cong \triangle SRT$
6. $\angle P \cong \angle S$

1. Given
2. \parallel
3. \parallel
4. Def. of midpoint
5. SSS
6. CPCTC

16. Given: $\overline{AC} \perp \overline{DB}$; $\overline{EF} \perp \overline{DB}$
 $\overline{AC} \cong \overline{EF}$; $\angle A \cong \angle E$
 Prove: $\angle B \cong \angle D$



1. $\overline{AC} \perp \overline{DB}$; $\overline{EF} \perp \overline{DB}$
2. $\overline{AC} \cong \overline{EF}$; $\angle A \cong \angle E$
3. $\angle 1$ and $\angle 2$ are right \angle 's
4. $\angle 1 \cong \angle 2$
5. $\triangle ABC \cong \triangle FED$
6. $\angle B \cong \angle D$

1. Given
2. \parallel
3. Def. \perp lines
4. Def. \cong \angle 's
5. ASA
6. CPCTC