

Congruent Triangles Review

Focus Practice Test

47pts

Short Answer

1. What does CPCTC stand for?

+1

Corresponding parts of congruent triangles are \cong

2. What are the two shortcuts that don't work to show two triangles are congruent?

+1

SSA
AAA

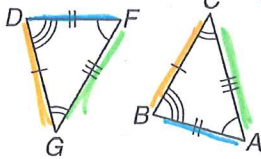
3. What are the five shortcuts that work to show that two triangles are congruent?

+1

HL SAS SSS AAS ASA
SAA

4. Identify the congruent triangles and name their corresponding congruent angles and sides. (CPCTC)

+3

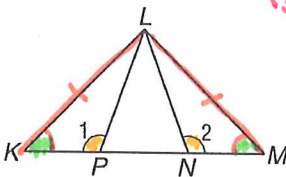


$\triangle ABC \cong \triangle FDG$ (+1) Sides (+1) Angles

$AB \cong FD$ $\angle A \cong \angle F$
 $BC \cong DG$ $\angle B \cong \angle D$
 $AC \cong FG$ $\angle C \cong \angle G$

5. $\triangle KLM$ is an isosceles triangle and $\angle 1 \cong \angle 2$. Then name the shortcut that could be used to prove $\triangle LKP \cong \triangle LMN$. (Hint: Mark the figure with what you know.)

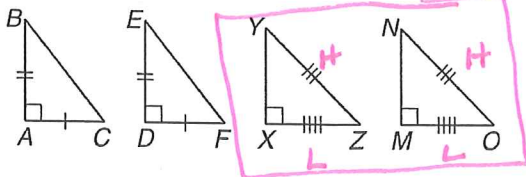
+2



(+1) S $LM \cong LK$ def of isosceles Δ s
 A $\angle K \cong \angle M$ base \angle s of isosceles Δ s \cong
 A $\angle 1 \cong \angle 2$ given } +1

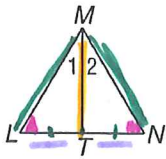
6. Without finding any other angles or sides congruent, determine which pair of triangles can be proved to be congruent by the HL Theorem.

+1



+9

Use the figure.

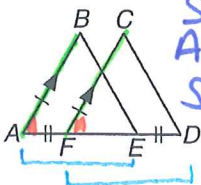


① SAS
 $S \ ML \cong MN$ def of isosceles Δ
 $A \ \angle L \cong \angle N$ base \angle s of isosceles Δ s \cong
 $S \ \angle T \cong \angle T$ def of midpt

+2 7. If ΔLMN is isosceles and T is the midpoint of \overline{LN} , which shortcut can be used to prove $\Delta MLT \cong \Delta MNT$? (Hint: Mark the figure with what you know.)

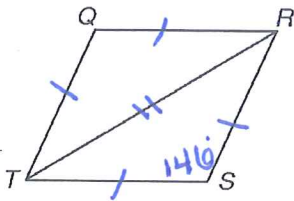
②
 $S \ MT \cong MT$ Reflexive
 $S \ LT \cong TN$ def of midpt
 $S \ ML \cong MN$ def of isosceles Δ

+2 8. If $\overline{AF} \cong \overline{DE}$, $\overline{AB} \cong \overline{FC}$ and $\overline{AB} \parallel \overline{FC}$, which shortcut can be used to prove $\Delta ABE \cong \Delta FCD$?



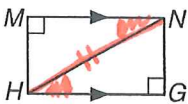
$S \ AB \cong FC$ given
 $A \ \angle A \cong \angle F$ corresponding \angle s are \cong
 $S \ AE \cong FD$ segment addition

+1 9. The rhombus $QRST$ is made of two congruent triangles. Given $m\angle QRS = 34$ what is the measure of $\angle S$?



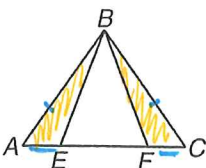
$\angle S = 146^\circ$
 consecutive interior \angle s are suppl.

+2 10. Which triangles are congruent in the figure? By what shortcut are they congruent?



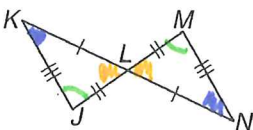
$A \ \angle M \cong \angle N$ given
 $A \ \angle MNH \cong \angle GHN$ alt. int \angle s are \cong
 $S \ HN \cong HN$ Reflexive

+2 11. If ΔABC is isosceles and $\overline{AE} \cong \overline{FC}$, which shortcut can be used to prove $\Delta AEB \cong \Delta CFB$? (Hint: Mark the figure with what you know.)



$S \ AE \cong FC$ given
 $A \ \angle A \cong \angle C$ base \angle s of isosceles Δ s are \cong
 $S \ AB \cong CB$ def of isosceles.

+3 12. Which triangles are congruent in the figure? By which shortcut are they congruent?



$\Delta K LJ \cong \Delta N LM$
 by SSS

$KL \cong NL$
 $LJ \cong LM$
 $KJ \cong NM$ } given in figure

+12

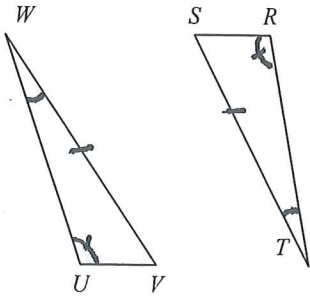
13. If $\triangle DJL \cong \triangle EGS$, which segment in $\triangle EGS$ corresponds to \overline{DL} ?

+1

ES

① Identify the congruent triangles in the figure. List the corresponding parts. By what short cut do you know that the two triangles are congruent?

14.



① $\triangle UVW \cong \triangle RST$

② corresponding parts

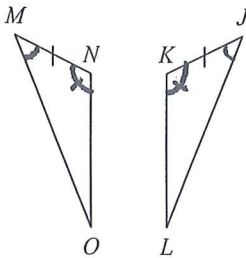
$UV \cong RS$ $\angle U \cong \angle R$
 $VW \cong ST$ $\angle V \cong \angle S$
 $UW \cong RT$ $\angle W \cong \angle T$

③ short cut

AAS
 OR
 SAA

+3

15.



① $\triangle MNO \cong \triangle JKL$

② corresponding parts

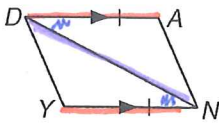
$MN \cong JK$ $\angle M \cong \angle J$
 $NO \cong KL$ $\angle N \cong \angle K$
 $MO \cong JL$ $\angle O \cong \angle L$

③ Shortcut

ASA

+3

Use the figure below for the following question.



16. Which shortcut proves the triangles congruent?

+2

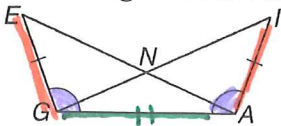
S $AD \cong AN$
 A $\angle ADN \cong \angle YND$ alt. int. \angle s are \cong
 S $ND \cong ND$ reflexive

17. If $\triangle TGS \cong \triangle KEL$, which angle in $\triangle KEL$ corresponds to $\angle T$?

+1

$\angle K$

Use the figure below for the following question.



18. Which shortcut proves the triangle EGA and triangle IAG congruent?

+2

S $EG \cong IA$ given
 A $\angle EGA \cong \angle IAG$ given
 S $GA \cong GA$ reflexive

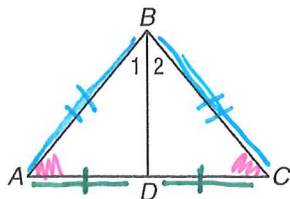
+12

Complete this two-column proof.

19. **Given:** $\triangle ABC$ is an isosceles triangle with base \overline{AC} .

D is the midpoint of \overline{AC} .

Prove: \overline{BD} bisects $\angle ABC$.

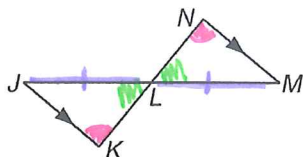


Statements	Reasons
1. $\triangle ABC$ is isosceles with base \overline{AC} .	1. <u>given</u>
2. $\overline{AB} \cong \overline{CB}$	2. <u>def of isosceles \triangle</u>
3. $\angle A \cong \angle C$	3. <u>base \angles of isosceles \triangles are \cong</u>
4. D is the midpoint of \overline{AC} .	4. <u>given</u>
5. $\overline{AD} \cong \overline{CD}$	5. <u>def of midpt</u>
6. $\triangle ABD \cong \triangle CBD$	6. <u>SAS</u>
7. $\angle 1 \cong \angle 2$	7. <u>cpctc</u>
8. \overline{BD} bisects $\angle ABC$.	8. <u>def of \angle bisector</u>

20. **Complete the proof.**

Given: L is the midpoint of \overline{JM} ; $\overline{JK} \parallel \overline{NM}$.

Prove: $\triangle JKL \cong \triangle MNL$



Statements	Reasons
1. L is the midpoint of \overline{JM} .	1. <u>given</u>
2. $\overline{JL} \cong \overline{ML}$	2. <u>def of midpt</u>
3. $\overline{JK} \parallel \overline{MN}$	3. <u>given</u>
4. $\angle JKL \cong \angle MNL$	4. <u>alt. int \angles are \cong</u>
5. $\angle JLK \cong \angle MLN$	5. <u>vertical \angles are \cong</u>
6. $\triangle JKL \cong \triangle MNL$	6. <u>AAS</u>