

Match the Shape

Put matching vertices in order.

GRADE 7 • 7.MG.2.c

7.MG.2.c "Given two similar quadrilaterals or triangles, write similarity statements using symbols."

NAME _____

DATE _____

KEEP THE ORDER

Match corresponding angles or sides first. Then write the vertices in the same order on both figures, using the symbol $\sim$.

WORKED EXAMPLE

Triangle JKL has angles $J=41^\circ$, $K=63^\circ$, and $L=76^\circ$. Triangle PQR has angles $P=63^\circ$, $Q=76^\circ$, and $R=41^\circ$. Write a similarity statement.

1. J matches R because both angles are 41° .
2. K matches P, and L matches Q.
3. List J, K, L with R, P, Q.

Answer: $\triangle JKL \sim \triangle RPQ$

PRACTICE 5 problems

- 1** A matches D, B matches E, and C matches F. Write a similarity statement beginning $\triangle ABC \sim$.

ANSWER _____

- 2** In similar triangles, $MN=8$, $NO=10$, and $OM=12$. Also, $XY=4$, $YZ=5$, and $ZX=6$. Write a similarity statement.

ANSWER _____

- 3** Quadrilaterals WXYZ and ABCD are similar. WX matches DA, XY matches AB, YZ matches BC, and ZW matches CD. Write a statement beginning $WXYZ \sim$.

ANSWER _____

- 4** Triangle QRS has angles 55° , 45° , and 80° . Triangle TUV has angles 80° , 55° , and 45° . Write a similarity statement.

ANSWER _____

- 5** Given $DEFG \sim KLMN$, complete: $EFGD \sim$ _____.

ANSWER _____

APPLY IT Show your work

- 1** An esports club makes a triangle logo. The small logo has sides $AB=7$, $BC=24$, and $CA=25$. Its similar large logo has $DE=14$, $EF=48$, and $FD=50$. Write a similarity statement.

WORK SPACE

ANSWER _____

- 2** A phone-case artist uses similar four-sided outlines. On the small outline, sides WX , XY , YZ , and ZW match GH , HI , IJ , and JG on the large outline. Write a similarity statement.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Given $ABCD \sim WXYZ$, Kai writes $CADB \sim YZWX$. Is Kai correct? Write the correct statement and explain.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A matches D, B matches E, and C matches F. Write a similarity statement beginning $\triangle ABC \sim$.	$\triangle ABC \sim \triangle DEF$
2	In similar triangles, $MN=8$, $NO=10$, and $OM=12$. Also, $XY=4$, $YZ=5$, and $ZX=6$. Write a similarity statement.	$\triangle MNO \sim \triangle XYZ$
3	Quadrilaterals WXYZ and ABCD are similar. WX matches DA, XY matches AB, YZ matches BC, and ZW matches CD. Write a statement beginning WXYZ $\sim$.	$WXYZ \sim DABC$
4	Triangle QRS has angles 55° , 45° , and 80° . Triangle TUV has angles 80° , 55° , and 45° . Write a similarity statement.	$\triangle QRS \sim \triangle UVT$
5	Given $DEFG \sim KLMN$, complete: $EFGD \sim$ ____.	$LMNK$

PART 2 • APPLY IT

1. $\triangle ABC \sim \triangle DEF$ AB matches DE, BC matches EF, and CA matches FD. List the matching vertices in that order.
2. $WXYZ \sim GHIJ$ W matches G, X matches H, Y matches I, and Z matches J. Keep that order in both names.

CHALLENGE

No. $CADB \sim YWZX$ because C matches Y, A matches W, D matches Z, and B matches X.

Accept any equivalent statement that keeps all corresponding vertices paired in order. A reversed order is acceptable only when both figures are reversed in matching order.