LESSON MAKER PRO

Side Match Mission

Pair matching sides and write equal ratios.

GRADE 7 · 7.MG.2.d

7.MG.2.d "Write proportions to express the relationships between the lengths of corresponding sides of similar quadrilaterals and triangles."

NAME _____ DATE _____

MATCH THE SIDES

Similar figures have proportional corresponding side lengths. Put matching sides in the same order in each ratio, then set the ratios equal.

WORKED EXAMPLE

△RST and △UVW are similar. RS = 4, ST = 10, UV = 6, and VW = 15. Write a proportion comparing RS with UV and ST with VW.

1. Match RS with UV and ST with VW.
2. Write the ratios: RS/UV = ST/VW.
3. Substitute the lengths: 4/6 = 10/15.

Answer: 4/6 = 10/15

PRACTICE 5 problems

1 △ABC and △DEF are similar. AB = 8, BC = 14, DE = 12, and EF = 21. Write a proportion comparing AB with DE and BC with EF.

ANSWER _____

2 WXYZ and JKLM are similar quadrilaterals. WX = 9, XY = 16, JK = 18, and KL = 32. Write a proportion comparing WX with JK and XY with KL.

ANSWER _____

3 △GHI and △PQR are similar. GH corresponds to PQ, and HI corresponds to QR. Write a proportion using these pairs.

ANSWER _____

4 MNOP and QRST are similar quadrilaterals. MN = 11, NO = 13, QR = 22, and RS = 26. Write a proportion comparing MN with QR and NO with RS.

ANSWER _____

5 △JKL and △MNP are similar. JK = 25, KL = 35, MN = 30, and NP = 42. Write a proportion comparing JK with MN and KL with NP.

ANSWER _____

APPLY IT Show your work

1 A game club prints two similar triangular logos. On the small logo, two sides measure 18 cm and 27 cm. Their matching sides on the large logo measure 24 cm and 36 cm. Write a proportion for the matching sides.

WORK SPACE

ANSWER _____

2 A gaming channel uses two similar four-sided screen overlays. Two sides on the first overlay measure 20 cm and 28 cm. Their matching sides on the second overlay measure 30 cm and 42 cm. Write a proportion for the matching sides.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Two similar quadrilaterals have side lengths 7 cm, 11 cm, 13 cm, and 17 cm. The matching quadrilateral has side lengths 14 cm, 22 cm, 26 cm, and 34 cm. Write one chain proportion pairing all four sides. Explain how you chose the pairs.

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_____

ANSWER KEY

Side Match Mission

GRADE 7 · 7.MG.2.d

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	△ABC and △DEF are similar. AB = 8, BC = 14, DE = 12, and EF = 21. Write a proportion comparing AB with DE and BC with EF.	**8/12 = 14/21**
2	WXYZ and JKLM are similar quadrilaterals. WX = 9, XY = 16, JK = 18, and KL = 32. Write a proportion comparing WX with JK and XY with KL.	**9/18 = 16/32**
3	△GHI and △PQR are similar. GH corresponds to PQ, and HI corresponds to QR. Write a proportion using these pairs.	**GH/PQ = HI/QR**
4	MNOP and QRST are similar quadrilaterals. MN = 11, NO = 13, QR = 22, and RS = 26. Write a proportion comparing MN with QR and NO with RS.	**11/22 = 13/26**
5	△JKL and △MNP are similar. JK = 25, KL = 35, MN = 30, and NP = 42. Write a proportion comparing JK with MN and KL with NP.	**25/30 = 35/42**

PART 2 · APPLY IT

1. **18/24 = 27/36** Put each small-logo side over its matching large-logo side.
2. **20/30 = 28/42** Compare first-overlay lengths to their matching second-overlay lengths in the same order.

CHALLENGE

7/14 = 11/22 = 13/26 = 17/34. Each side in the second quadrilateral is twice its matching side.

Accept equivalent proportions when corresponding sides stay paired. Reversed ratios are correct if both ratios are reversed consistently.