# What Did King Krum Call the Royal Math and Science Teachers?

Write the letter of the best choice in each box containing the exercise number.

| 5 | 11 | 14 | 10 | 3 | 12 | 1 | 7 | 11 | 9 | 4 | 14 | 2 | 8 | 13 | 4 | 6 | 9 | 14 |
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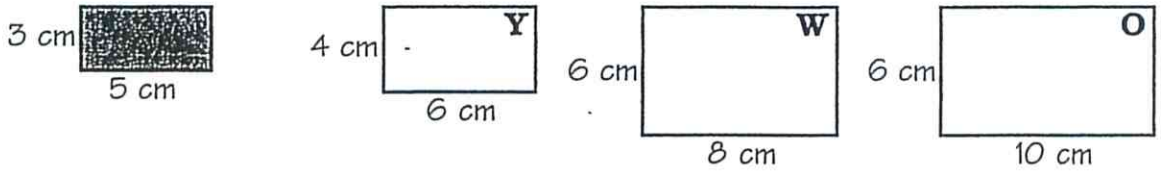
**1.** Which of the lettered rectangles is similar to the shaded rectangle?




**2.** Ms. Smudge had a 5 by 7 in. photograph enlarged. Which of these sizes is possible without cropping or distorting the photo?

**M.** 15 by 17 in. **U.** 15 by 21 in.

**3.** An 8 by 10 in. transparency is projected on a screen. Which of the following is a possible size for the enlarged image?

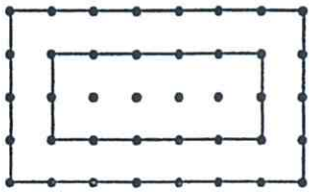
**A.** 4 by 5 ft **G.** 7 by 9 ft

**4.** The two figures drawn on dot paper at the right are:

**N.** Similar.

**D.** Not similar because corresponding angles are not congruent.

**E.** Not similar because corresponding sides are not proportional.

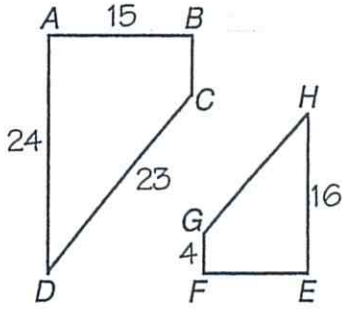


In Exercises 5-6, choose "True" or "False". (If a statement is not always true, it is false.)

**5.** If the angles of one quadrilateral are congruent to the angles of another quadrilateral, then the two quadrilaterals are similar. **J.** True **H.** False

**6.** If the angles of one triangle are congruent to the angles of another triangle, then the two triangles are similar. **C.** True **L.** False

In Exercises 7-10, trapezoids *ABCD* and *EFGH* are similar.



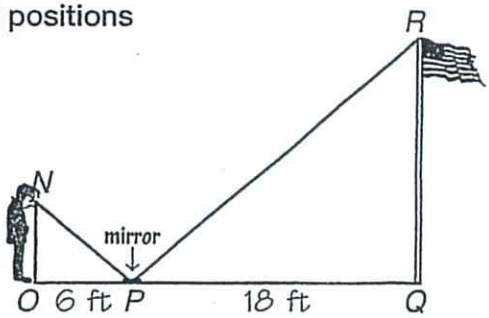

**7.** What is the scale factor of *ABCD* to *EFGH*? **N.** $\frac{4}{3}$ **R.** $\frac{3}{2}$

**8.** Which side of *EFGH* corresponds to $\overline{CD}$? **B.** $\overline{GH}$ **P.** $\overline{HE}$

**9.** Which side of *ABCD* corresponds to $\overline{GF}$? **K.** $\overline{AB}$ **T.** $\overline{BC}$

**10.** Which angle of *EFGH* corresponds to $\angle A$? **Y.** $\angle F$ **F.** $\angle E$

In Exercises 11-14, a student whose eyes are 5 ft above the ground positions a mirror on the ground so that he can see the top of a flagpole in it.




**11.** What is the scale factor of $\triangle NOP$ to $\triangle RQP$? **I.** $\frac{1}{3}$ **X.** $\frac{2}{5}$

**12.** Which angle is congruent to $\angle NPO$? **D.** $\angle R$ **V.** $\angle RPQ$

**13.** Complete this proportion: $\frac{OP}{PQ} = \frac{NO}{\quad}$ **J.** $QR$ **L.** $RP$

**14.** How tall is the flagpole? **N.** 20 ft **S.** 15 ft