

Problem of the Week Problem B and Solution Word Up!

Problem

In the diagram below, we can connect the letters of the word PLAY by drawing a straight line between each pair of consecutive letters in the word, and then another straight line from the last letter back to the first.

When we connect the letters of the word PLAY, we can see that the shape formed is a rectangle.

a) Which of the words shown below will also create a rectangle when we connect their letters in the diagram?

SHPK	SICK	PLAY
Y E B G	SULK	MODE
n, o b F	HACK	DAUB
I A M C		

b) Name the shapes formed when we connect the letters of these words: BEAM, BOYS, DAM.

CHALLENGE: What other words can you find which make polygons when you connect their letters in the diagram?

Solution

(a) SICK, SULK, HACK and PLAY form rectangles.

Note that SICK and PLAY form squares, but as a square is a type of rectangle, we include these.

Note also that though a square is a rectangle, a rectangle is not always a square.

(b) The shapes formed are: BEAM: rectangle

BOYS: quadrilateral

DAM: isosceles right-angled triangle

Challenge: Various words and polygons are possible, including:

YOU: isosceles right-angled triangle POD: right-angled triangle

MOB: isosceles right-angled triangle MASH: parallelogram

BAM: right-angled triangle POSH: isosceles triangle

GOAL: parallelogram CASH: quadrilateral