Permission Granted

AREA THE EASY WAY

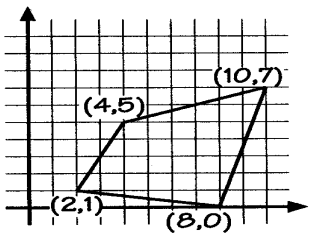
Thanks to Descartes and the creation of analytic geometry, many complex problems in mathematics have amazingly simple solutions. Consider, for example, the problem of finding the area of any polygon using the coordinates of the vertices.

Discover the easy way to solve this problem by observing the example below. This procedure will work for polygons of any shape or any number of vertices.

INSTRUCTIONS

1. **Beginning with any vertex, list the coordinates of the vertices in order, moving counter-clockwise around the polygon. List the first pair again at the end.**
2. **Find the diagonal products from left to right.**
3. **Find the diagonal products from right to left.**
4. **Sum each column of products.**
5. **Find their difference and divide by 2.**

This is the polygon's area!



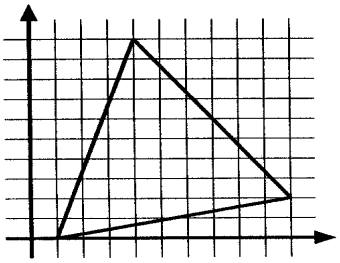
Vertices

		2	1			
8	=	8	0	=	0
0	=	10	7	=	56
28	=	4	5	=	50
10	=	2	1	=	4
46					110

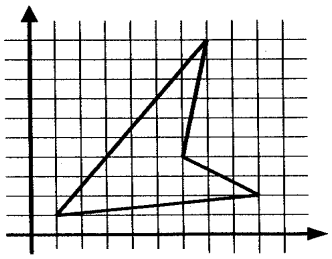
$$\text{Area} = \frac{110 - 46}{2} = 32 \text{ square units.}$$

Find the area for each polygon using the above method.

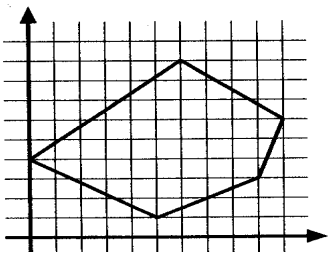
(1)



(2)



(3)



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