

Heron's Formula



p. 1.11 Classwork/Homework

Heron's formula is a method for determining the area of a triangle when only the sides are known. Heron's formula is: $A = \sqrt{s(s-a)(s-b)(s-c)}$ where $s = 1/2 \cdot \text{perimeter}$ and $a, b,$ and c are the lengths of the sides.

Directions: Roll the 3 dice to determine the lengths of the sides of a triangle. Complete the chart for that roll. Repeat 20 times.

To save time, use these numbers rolled

Number	Sides	Perimeter	Area (Round to the nearest tenth)	Do Sides Form a Triangle?
Example	2, 3, 4	9	$\sqrt{4.5(4.5 - 4)(4.5 - 3)(4.5 - 2)} = 2.9$	yes
1	4, 2, 5			
2	6, 6, 2			
3	5, 5, 5			
4	2, 5, 2			
5	1, 1, 1			
6	4, 6, 3			
7	3, 6, 3			
8	6, 1, 1			
9	5, 3, 4			
10	6, 1, 6			
11	3, 2, 1			
12	2, 4, 3			
13	5, 2, 5			
14	2, 4, 6			
15	2, 3, 6			
16	4, 2, 4			
17	6, 6, 6			
18	2, 1, 5			
19	5, 6, 3			
20	4, 1, 5			