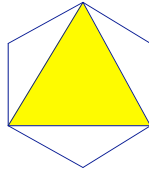


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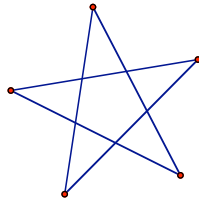
Unless a particular problem directs otherwise, give an exact answer or one rounded to the nearest thousandth.

Geometry - Grade 5

1. How many fold rotational symmetry does the image below contain?



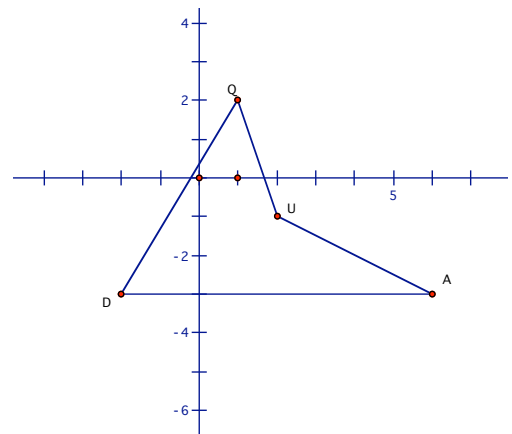
2. How many triangles are there in the figure below?



3. Two legs of a triangle have lengths 13 and 9. Give the range of the third leg written as an inequality with C as the variable ($\min < C < \max$).

4. Given the Translation $T(x,y) \rightarrow T_{(x-6,y+3)}$ of $Q(1,2)$, $U(2,-1)$, $A(6,-3)$ and $D(-2,-3)$.

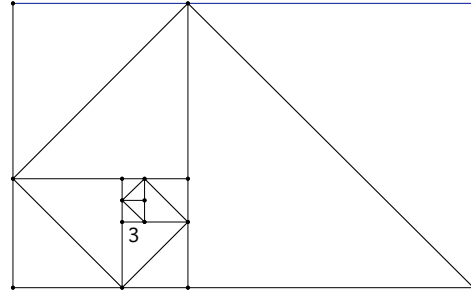
Find the sum of the x coordinates of ordered pairs of the image (the pre-image may help).



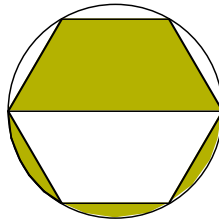
5. The supplement of an angle is 3 times the angle's complement. What is the missing angle?

6. What is the percent increase for the volume of a cube that has been dilated by a scale factor of 2?
7. A rectangle's long side is five more than twice the length of the shorter side. If the perimeter is 100, what is the length of the longest side?

8. The following geometric design is constructed by adding new squares to each rectangle. What would be the length of the longest diagonal, if the two smallest squares have side-lengths of three?



9. The regular hexagon below is circumscribed by a circle with a circumference of 8π . Find the shaded area.



10. The diagram shows an equiangular hexagon with side-lengths 12, 14, 18, 20, 22, 28 can be inscribed in an equilateral triangle with side-length 60. This same equiangular hexagon can also be inscribed in an equilateral triangle with side-length of n not equal to 60. What is the value on n ?

