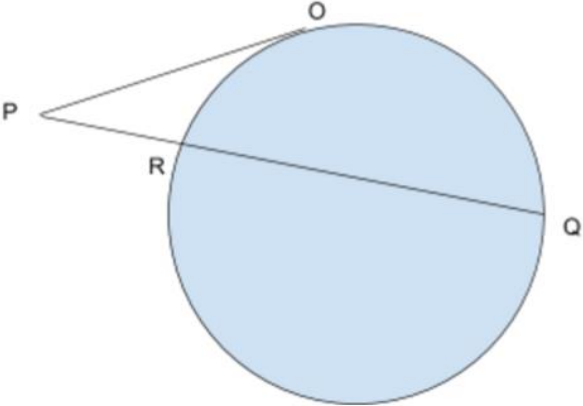


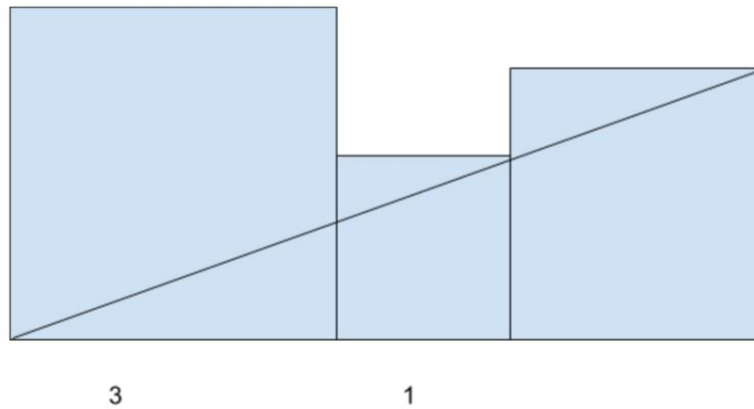


# Geometry 7th/8th

1	A quadrilateral has angles measured $3x$ , $2x$ , $2x$ , and $x$ . What is the measure, in degrees, of the largest angle?
2	What is $PQ$ if $PO = 4$ and $PR = 2$ ? 
3	If a right triangle $ABC$ has an inscribed circle intersecting hypotenuse $BC$ at point $P$ , and $BP = 3$ while $CP = 24$ , what is the area of $ABC$ ?
4	If each real number on the number line is given a color, how many colors are needed to color the number line given that no two points exactly 1 apart can have the same color?
5	Regular hexagon $NEWPOR$ shares a side with square $KPMT$ . What is the ratio of the area of $NEWPOR$ to the area of $KPMT$ ?
6	Michael and Akshay are racing their wheels. Michael's wheel is bigger and has a radius of 4, while Akshay's only has a radius of 3.5. However, Akshay is capable of moving his wheel at a speed of 6 revolutions per hour, while Michael can only move his at 5 revolutions per hour. If the track length is $1680\pi$ long, then how much time will have passed between the first and second person's finishing in hours?
7	Suppose point $P$ lies on side $BC$ of isosceles triangle $ABC$ , with $BC = 8$ and $AB = 4$ . If $PC$ has length 4, what is the length of $AP$ ?
8	In a $10 \times 10 \times 10$ cube, I colored all six faces red. If I then cut up the cube into 1000 unit cubes, then what percent of the unit cubes will have an odd number of faces colored red?

9

If the area of the entire figure is 14, then what is the length of the diagonal line starting at the bottom left corner of the figure traversing to the top right of the figure?



10

Find the area of the outer square given that there are 6 squares inside and 4 non-square rectangles, and each rectangle has integer side lengths.

