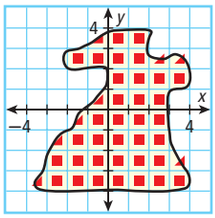
Section Overview

Professional Development

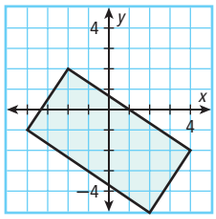
Perimeter and Area in the Coordinate Plane — Lesson 9-4

Why? By placing figures in the coordinate plane, you can use the coordinates to find the area and perimeter of figures.

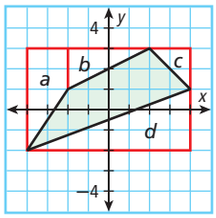
Estimate the area of an irregular shape by counting squares.



Use slopes and the Distance Formula to classify the shape, and then find perimeter and area.



Find the area of the rectangle and subtract areas of figures *a, b, c,* and *d* to find the shaded area.



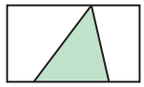
Effects of Changing Dimensions Proportionally — Lesson 9-5

Why? Shapes in the real world are enlarged and reduced in many situations.

Effects Of Changing Dimensions Proportionally		
Change in Dimension(s)	**Perimeter or Circumference**	**Area**
All dimensions multiplied by a	Changes by a factor of a	Changes by a factor of a^2
One dimension multiplied by a	N/A	Changes by a factor of a

Geometric Probability — Lesson 9-6

Why? You can use geometric probability to predict real-world outcomes.

Geometric Probablility			
Model	**Length**	**Angle Measure**	**Area**
Example			
Sample space	All points on $\overline{AD}$	All points in the circle	All points in the rectangle
Event	All points on $\overline{BC}$	All points in the shaded region	All points in the triangle
Probability	$P = \frac{BC}{AD}$	$P = \frac{\text{measure of angle}}{360°}$	$P = \frac{\text{area of triangle}}{\text{area of rectangle}}$