Geometry 9.6
Draw dilations
Draw dilations in the coordinate plane

dilation (scaling)
center (of dilation)   measure from $(0,0)$
scale factor
enlargement $Sf > 1$
reduction $SF < 1$
isometry $Sf = 1$

dilation practice WS

Quiz 9.5-9.6 Tues.

2 **Dilations in the Coordinate Plane** You can use the following rules to find the image of a figure after a dilation centered at the origin.
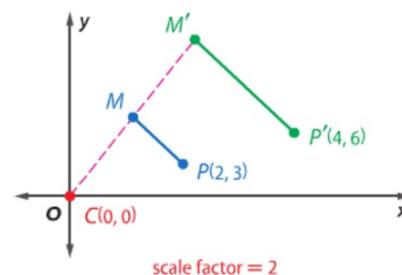
KeyConcept Dilations in the Coordinate Plane

Words	To find the coordinates of an image after a dilation centered at the origin, multiply the x- and y-coordinates of each point on the preimage by the scale factor of the dilation, k.	Example
Symbols	$(x, y) \rightarrow (kx, ky)$	

M'

M

P'(4, 6)

P(2, 3)

O | C(0, 0)

scale factor = 2
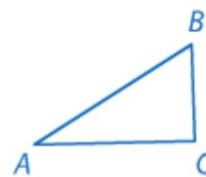
SFx preimage

Example 1 Draw a Dilation

Copy △ABC and point D. Then use a ruler
to draw the image of △ABC under a dilation with
center D and scale factor $\frac{1}{2}$.

B

• D

A   C

1. Draw ray (direction) from Center to point A
2. Measure distance (from Center to A)
3. Apply SF to distance
4. Measure and mark image A' (always from Center)
5. Repeat for each point

Dilation handout

SF = 2

A (3, 2)   A' (6, 4)

B (1, 6)   B' (2, 12)

C (4, -3)   C' (8, -6)

WB 9.6 sk + pr.