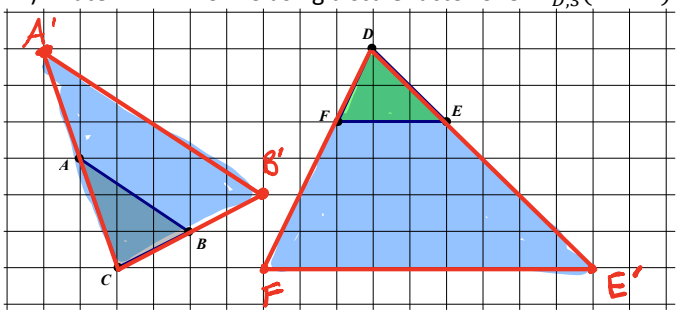
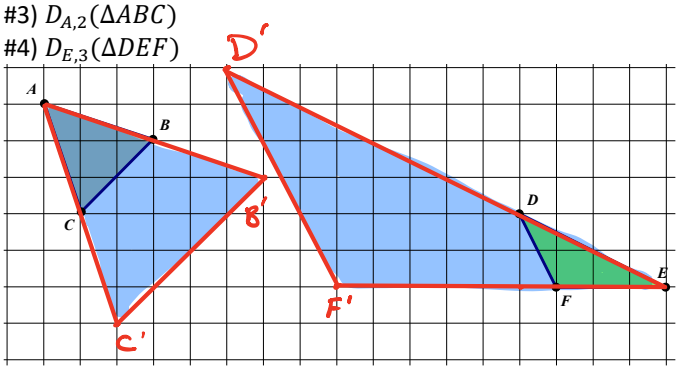
Geometry
HW Dilations 1

Name_____

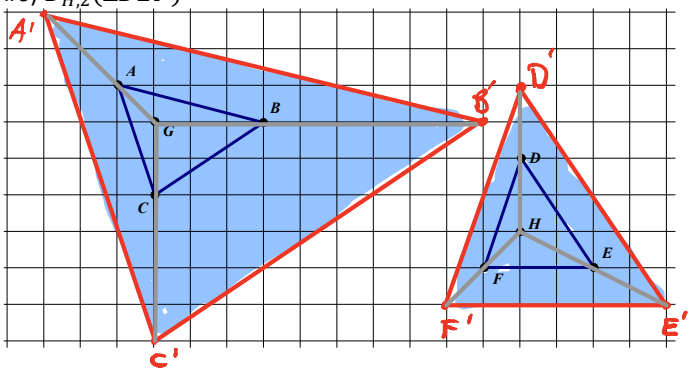
#1) Dilate ΔABC from C using a scale factor of 2. $D_{C,2}(\Delta ABC)$
#2) Dilate ΔDEF from C using a scale factor of 3. $D_{D,3}(\Delta EDF)$



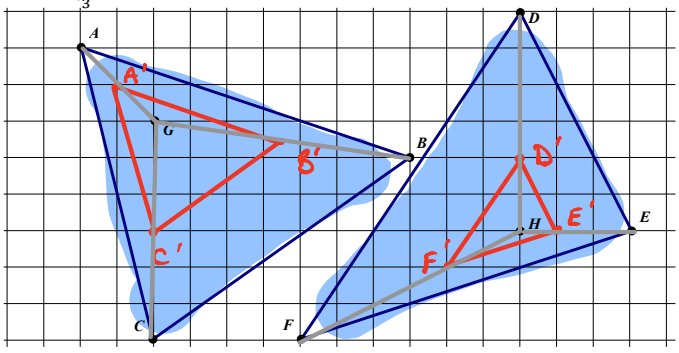
#3) $D_{A,2}(\Delta ABC)$
#4) $D_{E,3}(\Delta DEF)$



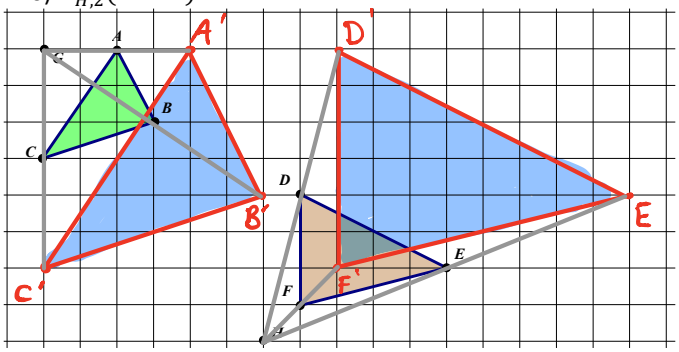
#5) $D_{G,3}(\Delta ABC)$
#6) $D_{H,2}(\Delta DEF)$



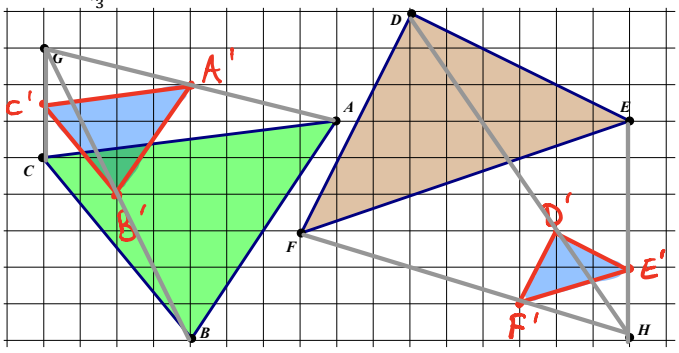
#7) $D_{G,\frac{1}{2}}(\Delta ABC)$
#8) $D_{H,\frac{1}{3}}(\Delta DEF)$



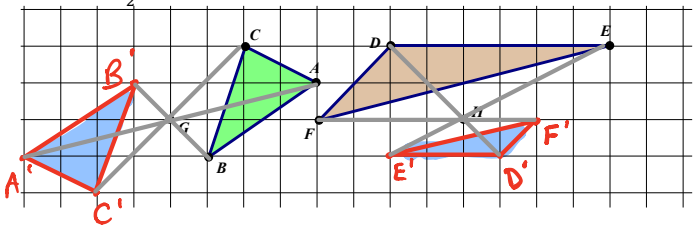
#9) $D_{G,2}(\Delta ABC)$
#10) $D_{H,2}(\Delta DEF)$



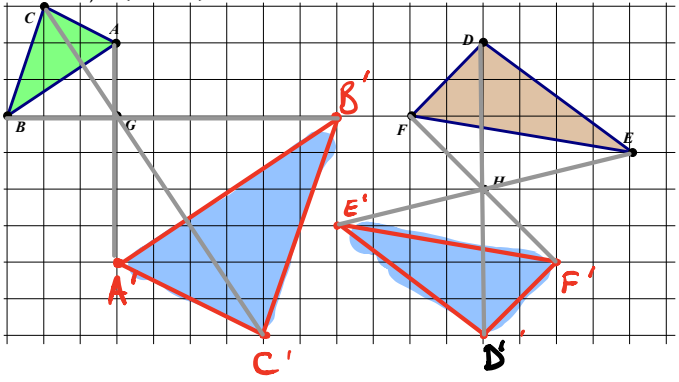
#11) $D_{G,\frac{1}{2}}(\Delta ABC)$
#12) $D_{H,\frac{1}{3}}(\Delta DEF)$



#13) $D_{G,-1}(\Delta ABC)$
#14) $D_{H,-\frac{1}{2}}(\Delta DEF)$



#15) $D_{G,-2}(\Delta ABC)$
#16) $D_{H,-1}(\Delta DEF)$



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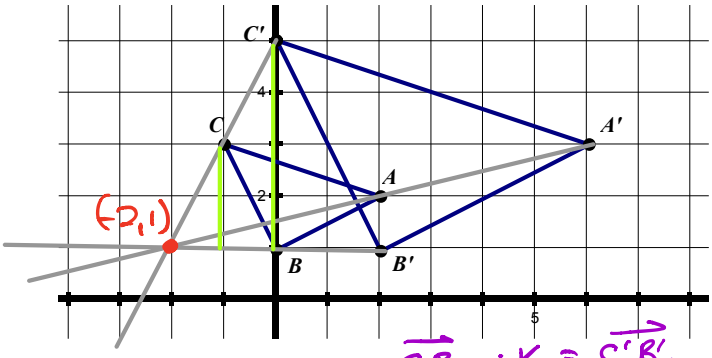
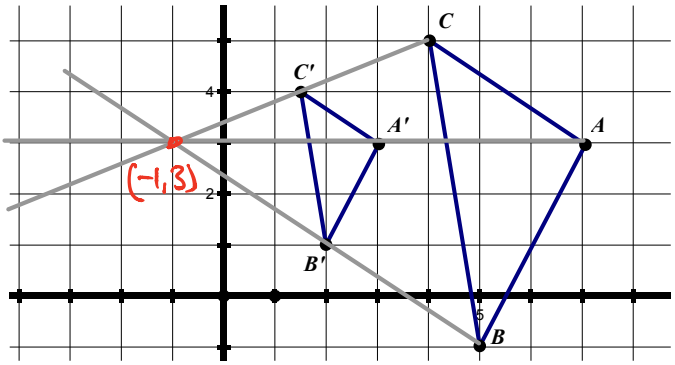
#17) Center (-2, 1) Scale Factor = 2



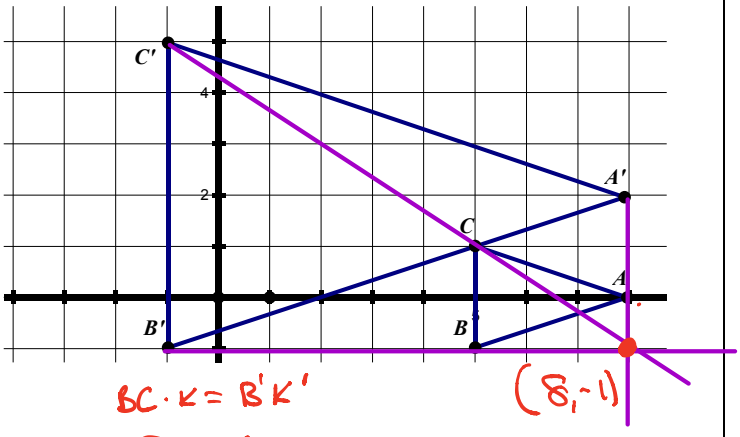
$\overrightarrow{CB}_y \cdot k = \overrightarrow{C'B'}_y$
$2 \cdot k = 4$
$k = 2$

#18) Center (-1, 3) Scale Factor = $\frac{1}{2}$



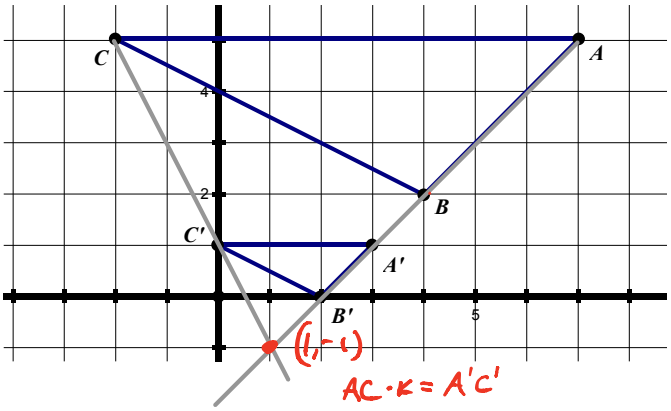
$\overrightarrow{CA}_y \cdot k = \overrightarrow{C'A'}_y$
$2 \cdot k = 1$
$k = \frac{1}{2}$

#19) Center (8, -1) Scale Factor = 3



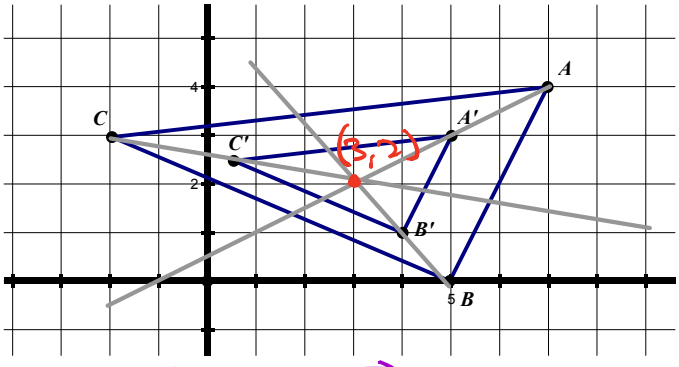
$BC \cdot k = B'K'$
$2 \cdot k = 6$
$k = 3$

#20) Center (1, -1) Scale Factor = $\frac{1}{3}$



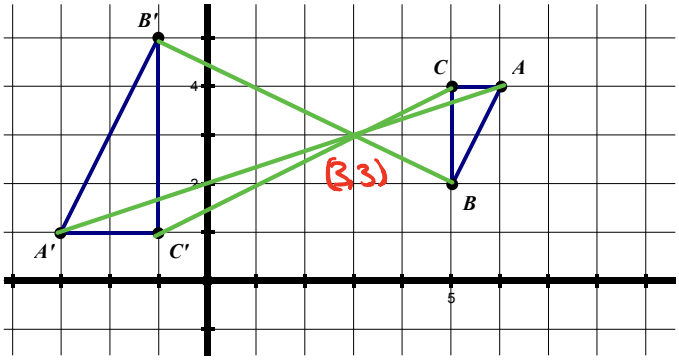
$AC \cdot k = A'C'$
$9 \cdot k = 3$
$k = \frac{1}{3}$

#21) Center (3, 2) Scale Factor = $\frac{1}{2}$



$\overrightarrow{CA}_x \cdot k = \overrightarrow{C'A'}_x$
$9 \cdot k = 4.5$
$k = \frac{1}{2}$

#22) Center (3, 3) Scale Factor = -2



$AC \cdot k = A'C'$
$1 \cdot k = 2$
$k = 2$, but $\Delta A'B'C'$ went in the negative direction, so $k = -2$

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Complete all the problems. Write all your answers in slope-intercept form.

#23) Line ℓ has the equation $y = \frac{-1}{4}x - 4$. Write the equation of the image of ℓ after dilation with a scale factor of $\frac{1}{4}$, centered at the origin.

$m = -\frac{1}{4}$ y-int $= -4$

$//m = -\frac{1}{4}$ $\frac{1}{4}$ y-int $= \frac{1}{4}(-4) = -1$

$y = -\frac{1}{4}x - 1$

#24) Line ℓ has the equation $y = 5x - 5$. Write the equation of the image of ℓ after dilation with a scale factor of $\frac{1}{5}$, centered at the origin.

$m = 5$ y-int $= -5$

$//m = 5$ $\frac{1}{5}$ y-int $= \frac{1}{5}(-5) = -1$

$y = 5x - 1$

#25) Line ℓ has the equation $y = \frac{-1}{4}x - 3$. Write the equation of the image of ℓ after dilation with a scale factor of 2, centered at the origin.

$m = -\frac{1}{4}$ y-int $= -3$

$//m = -\frac{1}{4}$ 2 y-int $= 2(-3) = -6$

$y = -\frac{1}{4}x - 6$

#26) Line ℓ has the equation $y = \frac{1}{4}x - 2$. Write the equation of the image of ℓ after dilation with a scale factor of $\frac{1}{2}$, centered at the origin.

$m = \frac{1}{4}$ y-int $= -2$

$//m = \frac{1}{4}$ $\frac{1}{2}$ y-int $= \frac{1}{2}(-2) = -1$

$y = \frac{1}{4}x - 1$

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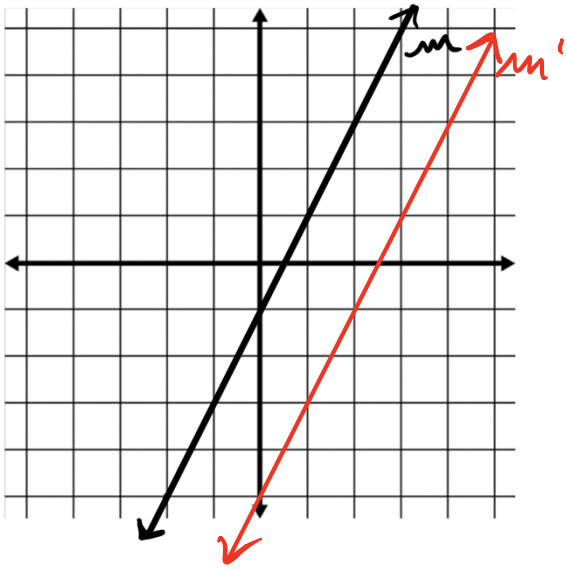
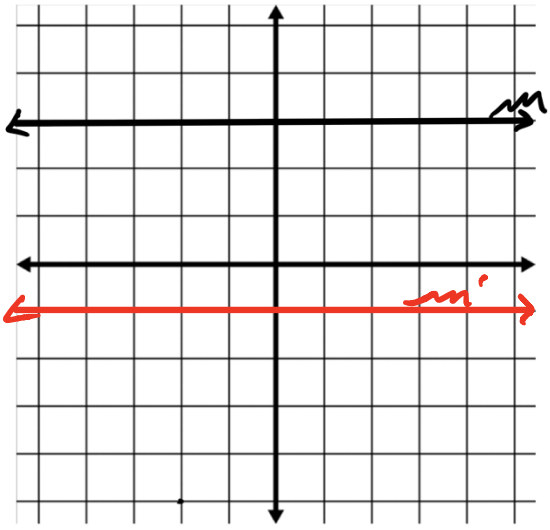
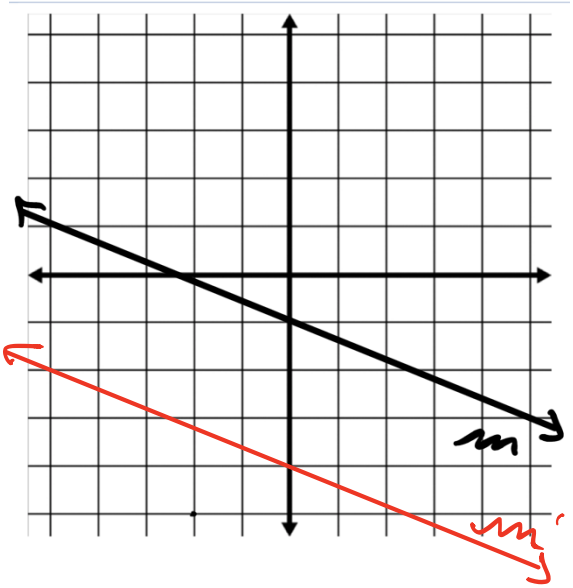
#27) $D_{origin,5}(m) = m'$



#28) $D_{origin,-\frac{1}{3}}(m) = m'$



#29) $D_{origin,4}(m) = m'$



#30) $D_{origin,\frac{1}{5}}(m) = m'$