Name:_____

Advanced Geometry – Mr. J

Transformations

Unit Test Review Large Packet Halloween Surprise Funness

Translations

<a,b> takes the point (x,y) → (,)

Reflections

Points in the coordinate plane get reflected over _____.

Reflection over the x-axis takes the point (x,y) → (,)
Reflection over the y-axis takes the point (x,y) → (,)
Reflection over the line y = x takes the point (x,y) → (,)

Rotations

The three determining factors of a rotation are:

1.
2.
3.

A rotation around the point (0,0) counterclockwise by...
90 degrees takes the point (x,y) → (,)
180 degrees takes the point (x,y) → (,)
270 degrees takes the point (x,y) → (,)

Glide Reflections

Glide reflections are a composition of _____ and _____.
By the _____ theorem, we know that glide reflections are rigid motions.

Dilations

Dilations with scaling factors less than one are called:
Dilations with scaling factors more than one are called:

tRiCK oR tRANSfoRm ▷▷▷

For each section, plot the point and then perform the indicated translations. Connect the dots as you go to complete the picture.

Plot (-6,0)

$T_{<2,3>}$

$T_{<1,-3>}$

$T_{<-3,0>}$

Plot (0,0)

$T_{<-1,-2>}$

$T_{<2,-1>}$

$T_{<-1,3>}$

Plot (4,3)

$T_{<-1,-3>}$

$T_{<3,0>}$

$T_{<-2,3>}$

Plot (0,-5)

$T_{<-1,0>}$

$T_{<0,1>}$

$T_{<-3,0>}$

$T_{<-3,1>}$

$T_{<1,-2>}$

$T_{<2,-1>}$

$T_{<0,1>}$

$T_{<2,0>}$

$T_{<0,-1>}$

$T_{<2,0>}$

$R_{y\text{-axis}}$

Plot (-1,4)

$T_{<-2,1>}$

$T_{<-3,0>}$

$T_{<-3,-1>}$

$T_{<-2,-2>}$

$T_{<0,-6>}$

$T_{<3,-3>}$

$T_{<4,-1>}$

$T_{<8,0>}$

Plot (4,-8)

$T_{<4,1>}$

$T_{<3,3>}$

$T_{<0,6>}$

$T_{<-2,2>}$

$T_{<-3,1>}$

$T_{<-3,0>}$

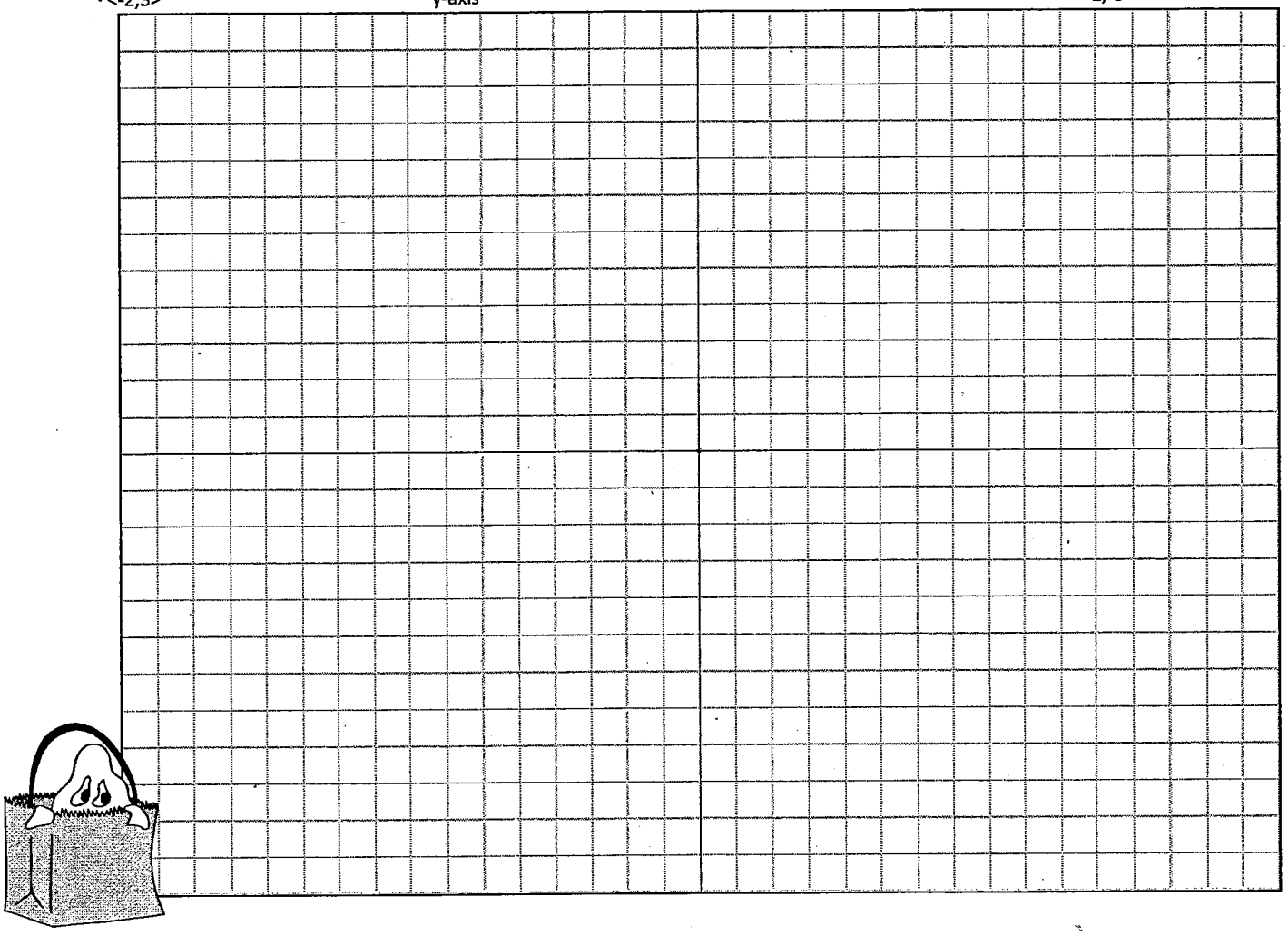
$T_{<-2,-1>}$

$T_{<-2,0>}$

$T_{<0,3>}$

$T_{<3,0>}$

$T_{<-1,-3>}$



Name_____

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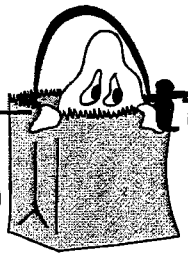


tRiCK OR tRANSfORm

FIGURE 1:

Plot (-3,2)

$T_{<-1,3>}$

$T_{<0,4>}$

$T_{<-1,1>}$

$T_{<-2,0>}$

$T_{<-2,-2>}$

$T_{<0,-4>}$

$T_{<-2,-2>}$

$T_{<2,0>}$

$T_{<1,1>}$

$T_{<1,-1>}$

$T_{<1,1>}$

$T_{<3,-1>}$

Plot (-5,7)

$T_{<-1,0>}$

$T_{<0,1>}$

$T_{<1,-1>}$

Plot (-7,7)

$T_{<0,1>}$

$T_{<-1,-1>}$

$T_{<1,0>}$

Plot (-6,5)

$T_{<0,1>}$

$T_{<-1,0>}$

$T_{<0,-1>}$

$T_{<1,0>}$

FIGURE 2:

Rotate Figure 1 90° clockwise

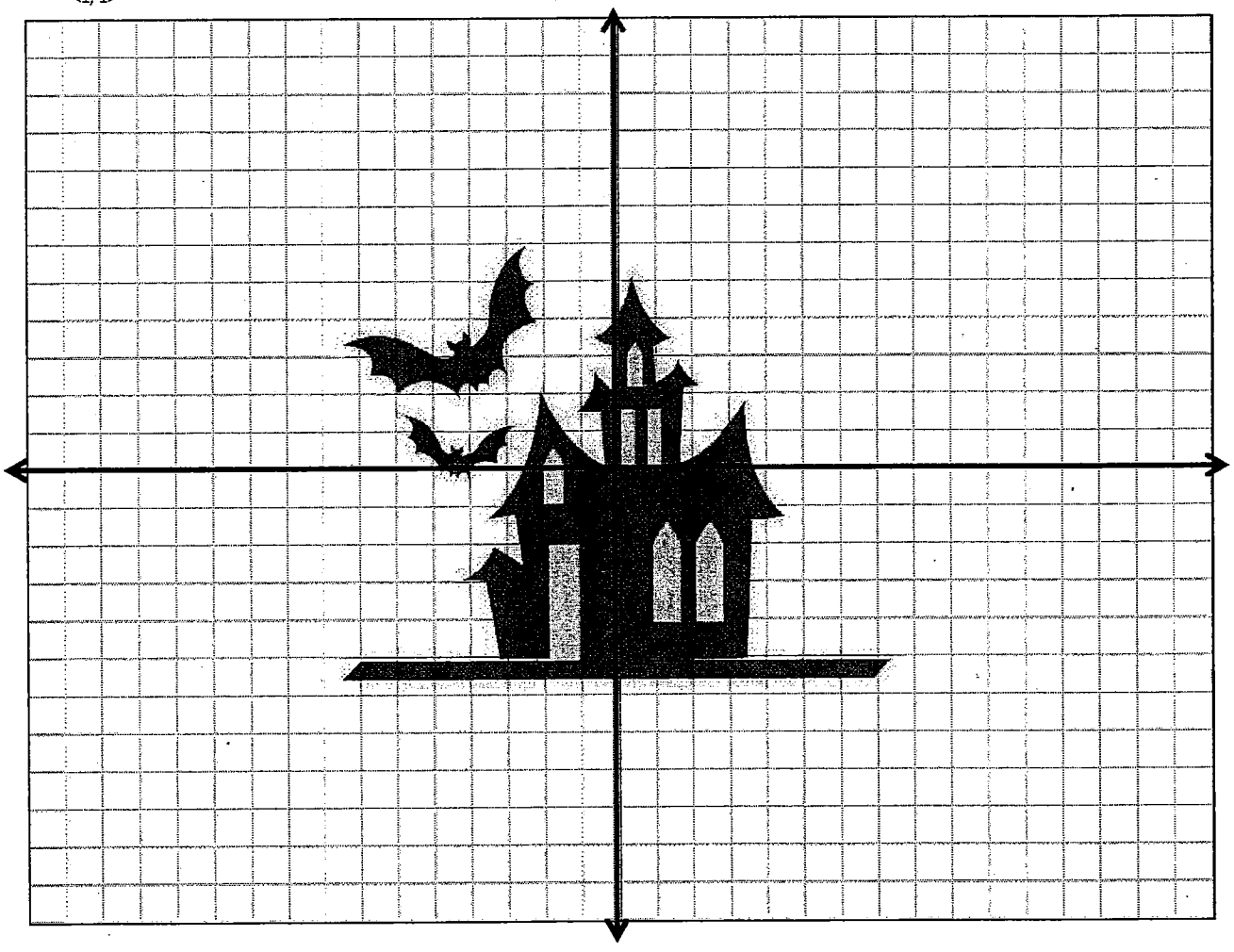
FIGURE 3:

Rotate Figure 2 180° clockwise

FIGURE 4:

Rotate Figure 3 90° counterclockwise

Original	1st Rot	2nd Rot	3rd Rot



tRICK OR tRANSFORm

Name_____

FIGURE 1:

Plot (-12,4)

$T_{<0,4>}$

$T_{<1,1>}$

$T_{<3,0>}$

$T_{<1,-1>}$

$T_{<0,-4>}$

$T_{<-1,-1>}$

$T_{<-3,0>}$

$T_{<-1,1>}$

FIGURE 2:

Plot (-12,8)

$T_{<-2,1>}$

$T_{<1,2>}$

Plot (-12,7)

$T_{<-2,0>}$

$T_{<-1,2>}$

FIGURE 3:

$R_{x=-9.5}$ (figure2)

FIGURE 4:

$R_{Y=6}$ (figure 3)

SPIDER #1

SPIDER #2:

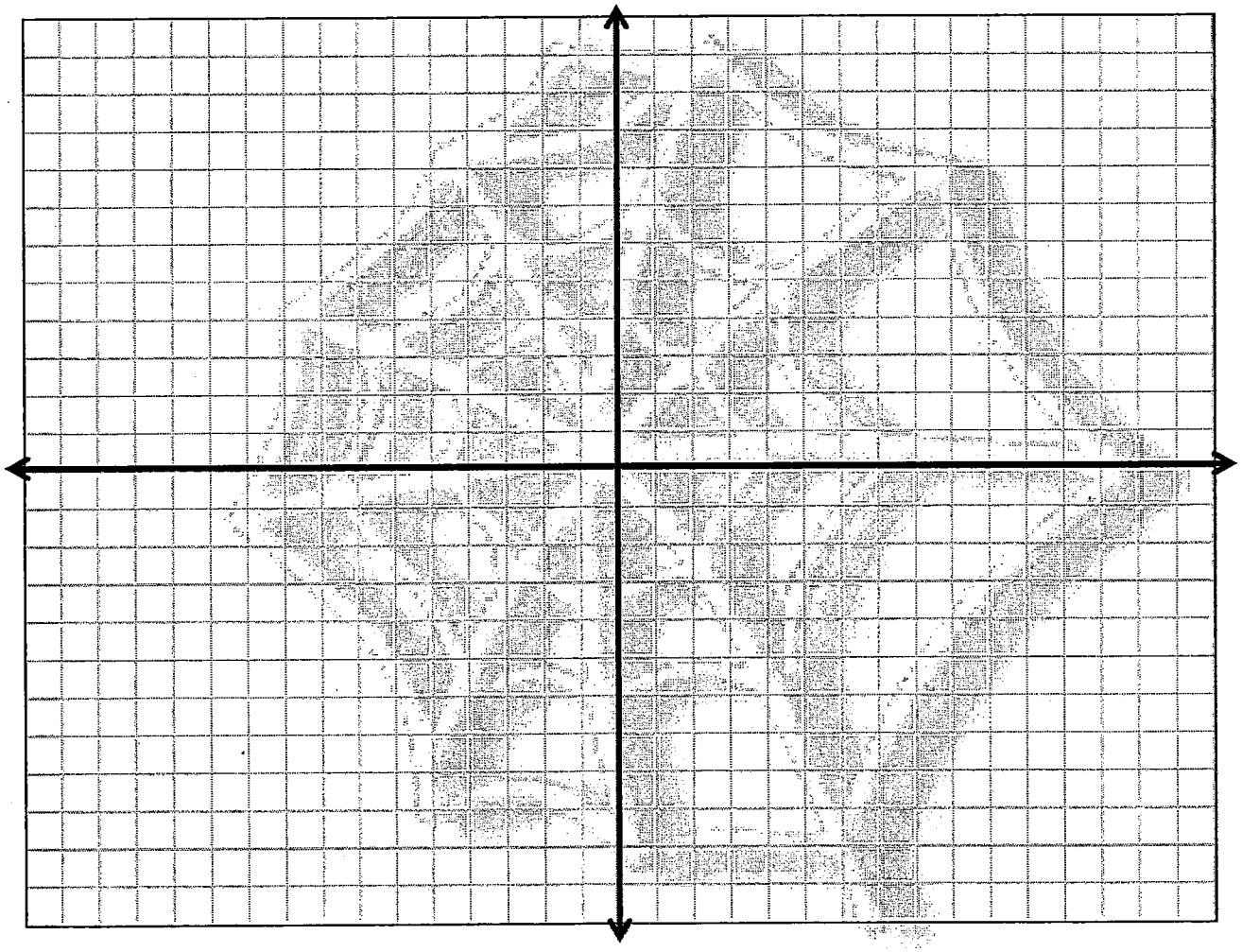
Translate Spider # 1 16 units to the right and 2 units down

SPIDER #3:

Reflect Spider #2 across the x-axis

SPIDER #4:

Rotate Spider #3 90° clockwise about the origin



Name_____

tRICK OR tRANSfORm

Plot (-5,0)

$T_{<-1,2>}$

$T_{<-6,0>}$

$T_{<-2,-2>}$

$T_{<9,0>}$

Plot (-11,2)

$T_{<2,5>}$

$T_{<1,0>}$

$T_{<1,-1>}$

$T_{<-1,0>}$

$T_{<1,-4>}$

Plot (-13,-7)

$T_{<3,0>}$

$T_{<0,7>}$

$T_{<-2,0>}$

$T_{<0,-1>}$

$T_{<-1,-1>}$

$T_{<1,0>}$

$T_{<-2,-2>}$

$T_{<1,0>}$

$T_{<0,-1>}$

$T_{<-1,-1>}$

$T_{<2,0>}$

$T_{<-1,-1>}$

Plot (-8,0)

$T_{<1,-1>}$

$T_{<1,0>}$

$T_{<0,-1>}$

$T_{<-1,0>}$

$T_{<0,-2>}$

$T_{<1,-1>}$

$T_{<-1,-1>}$

$T_{<-1,1>}$

$T_{<-2,0>}$

Plot (-9,-1)

$T_{<0,-1>}$

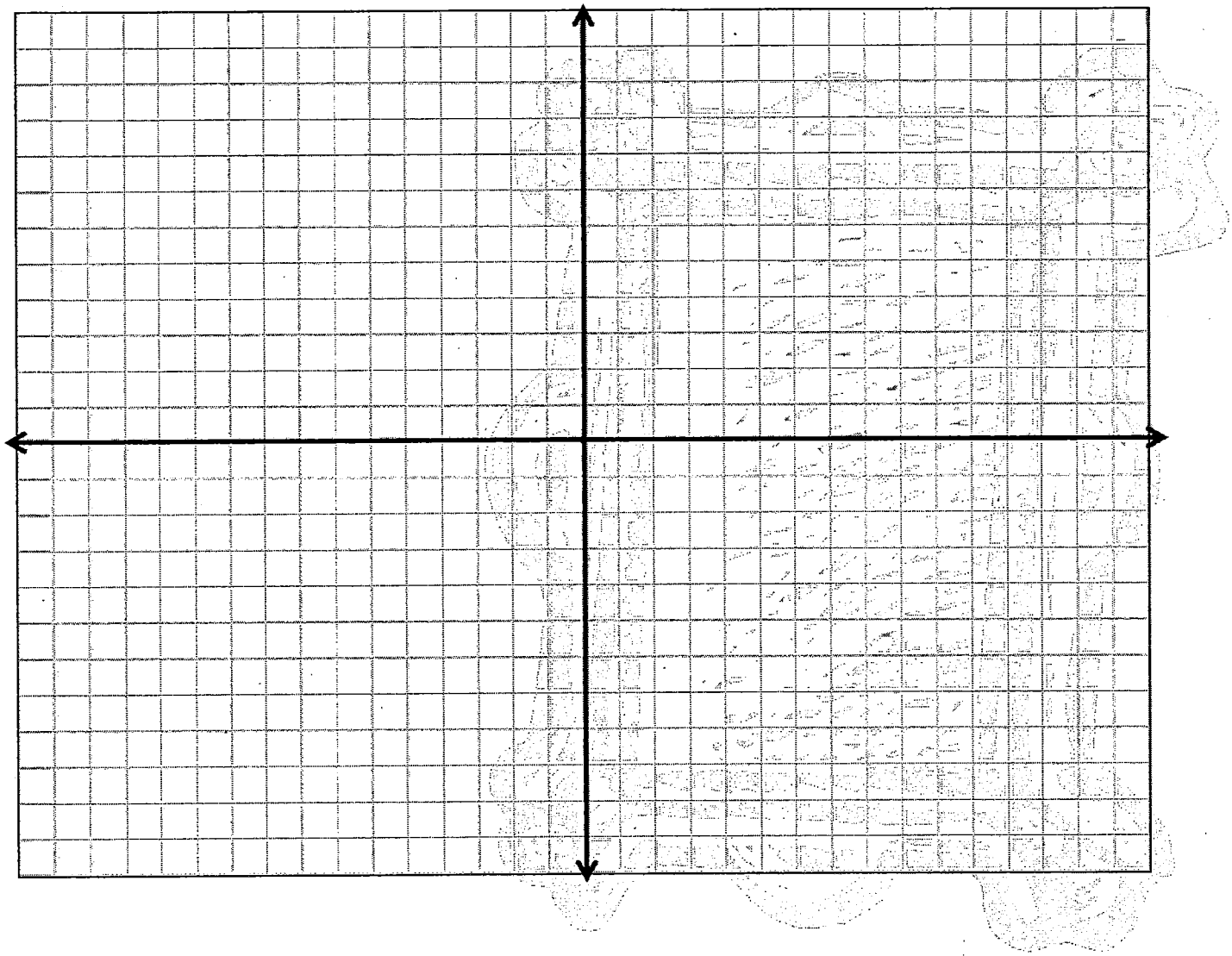
$T_{<1,1>}$

$T_{<-1,0>}$

Plot (-7,-3)

$T_{<-2,0>}$

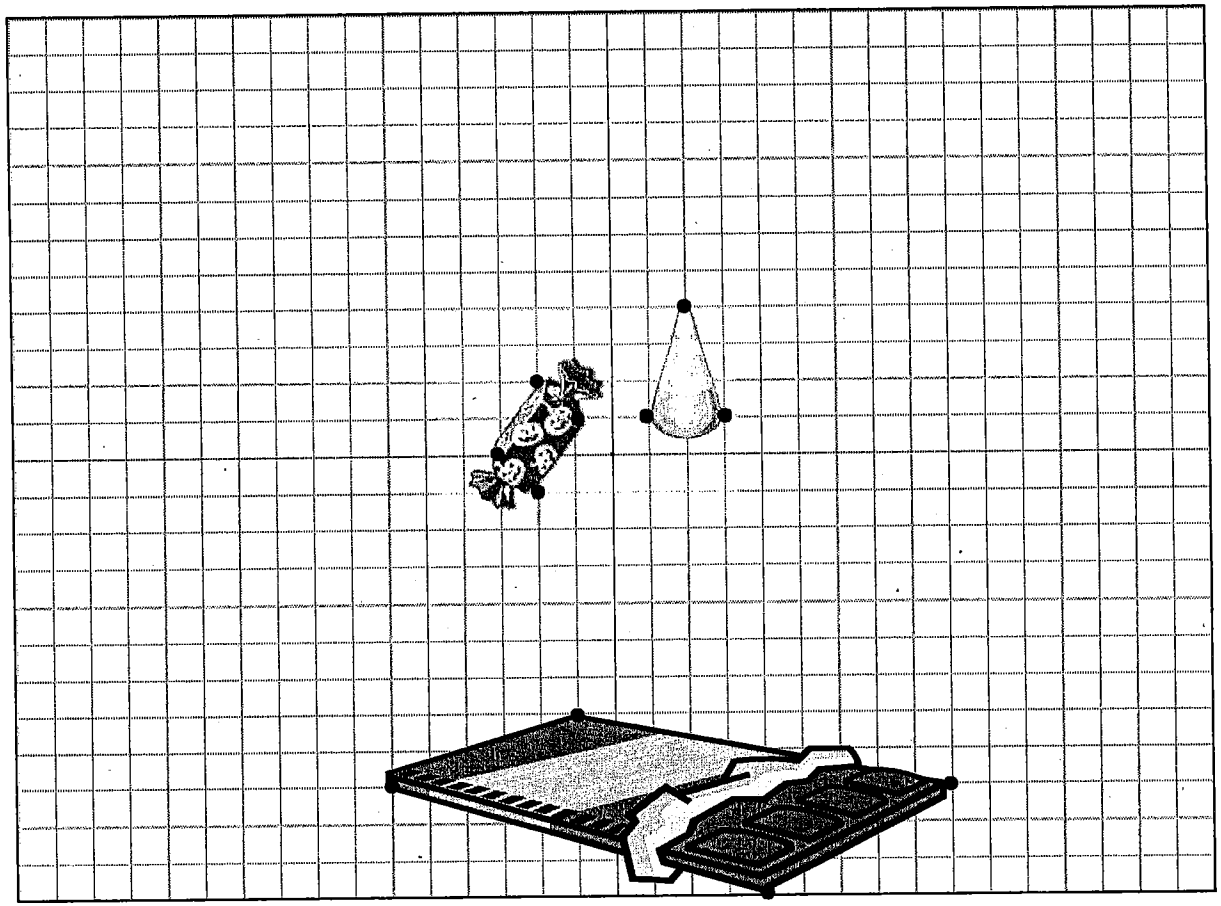
Reflect the entire image about the line x=-1



tRICK OR tRANSFORm

Carlos hit the jackpot when he went trick-or-treating this year!

For each piece of candy find the coordinates for the marked points and perform the indicated dilation.



Name_____

Candy Corn

Dilate from the origin with r=3

Original	New candy corn
(____,____)	(____,____)
(____,____)	(____,____)
(____,____)	(____,____)

Chocolate Bar

Dilate from the origin with $r=\frac{1}{2}$

Original	New Chocolate Bar
(____,____)	(____,____)
(____,____)	(____,____)
(____,____)	(____,____)
(____,____)	(____,____)

Halloween Taffy

Dilate from the origin with r=5

Original	New Taffy
(____,____)	(____,____)
(____,____)	(____,____)
(____,____)	(____,____)
(____,____)	(____,____)