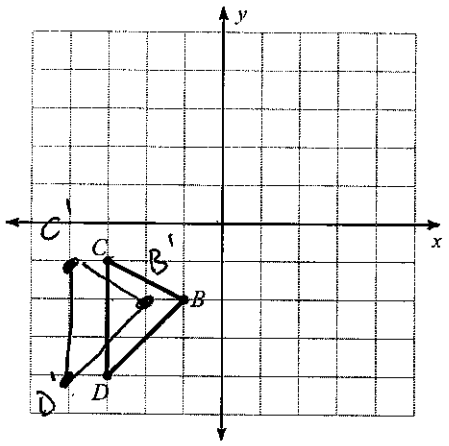
Geometry Name Key ID: 1

Unit 1 Quiz 2 Study Guide

Date _____ Period ____

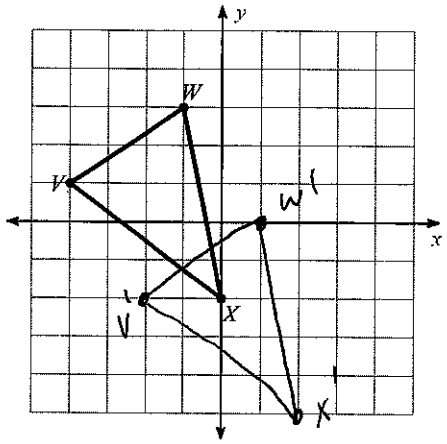
Graph the image of the figure using the transformation given.

1) translation: 1 unit left



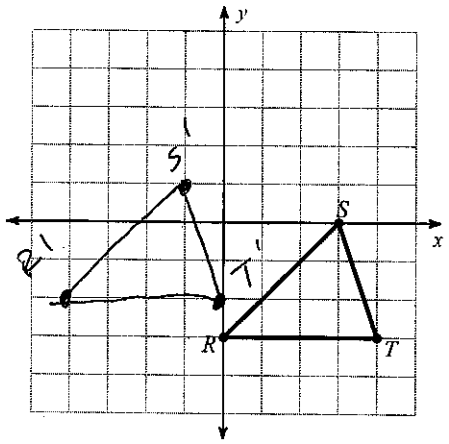
V	P	I
B	(-1,-2)	(-2,-2)
C	(-3,-1)	(-4,-1)
D	(-3,-4)	(-4,-4)

2) translation: 2 units right and 3 units down



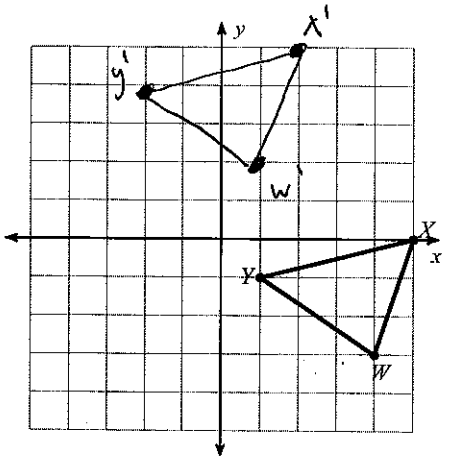
V	P	I
V	(-4,1)	(-2,-2)
W	(-1,3)	(1,0)
X	(0,-2)	(2,-5)

3) translation: 4 units left and 1 unit up



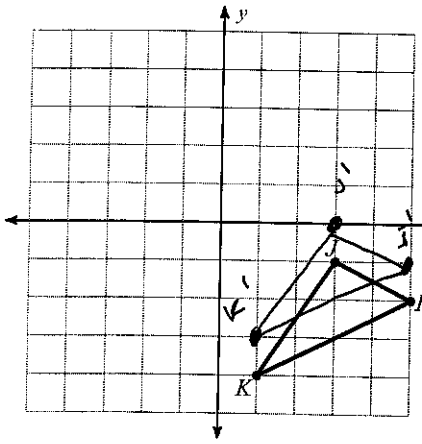
V	P	I
R	(0,-3)	(-4,-2)
S	(3,0)	(-1,1)
T	(4,-3)	(0,-2)

4) translation: 3 units left and 5 units up



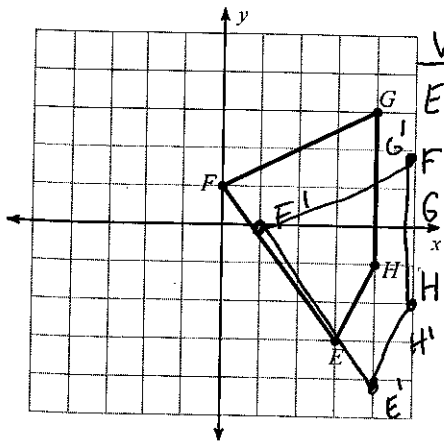
V	P	I
W	(4,-3)	(1,2)
X	(5,0)	(2,5)
Y	(1,-1)	(-2,4)

5) translation: $(x, y) \rightarrow (x, y + 1)$



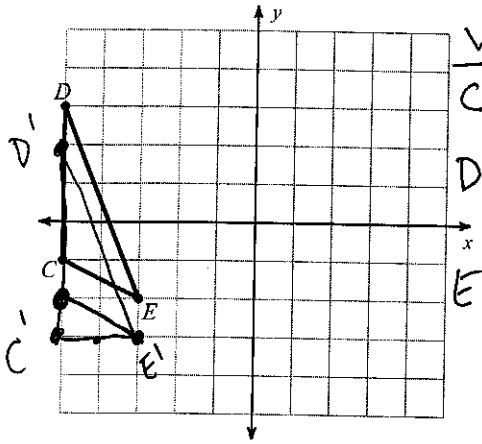
V	P	I
I	(5, -2)	(5, -1)
J	(3, -1)	(3, 0)
K	(1, -4)	(1, -3)

6) translation: $(x, y) \rightarrow (x + 1, y - 1)$



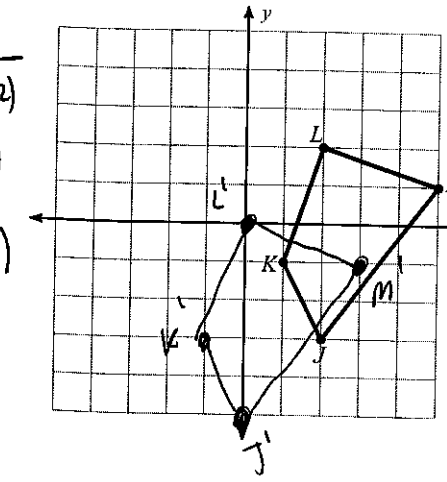
V	P	I
E	(3, -3)	(4, -4)
F	(0, 1)	(-1, 0)
G	(4, 3)	(5, 2)
H	(4, -1)	(5, -2)

7) translation: $(x, y) \rightarrow (x, y - 1)$



V	P	I
C	(-5, -1)	(-5, -2)
D	(-5, 3)	(-5, 2)
E	(-3, -2)	(-3, -3)

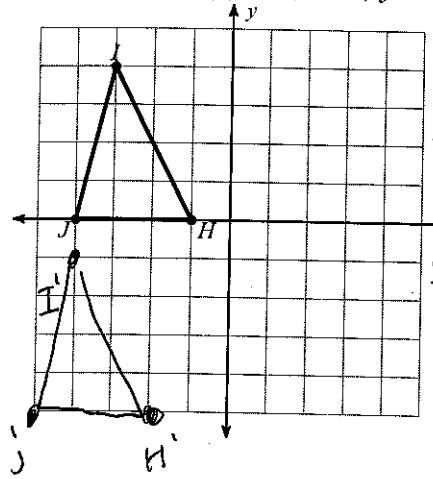
8) translation: $(x, y) \rightarrow (x - 2, y - 2)$



V	P	I
J	(2, -3)	(0, -5)
K	(1, -1)	(-1, -3)
L	(2, 2)	(0, 0)
M	(5, 1)	(3, -1)

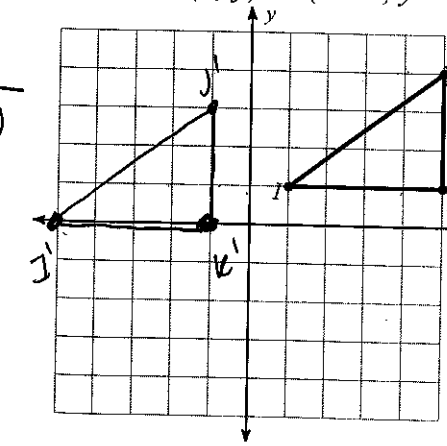
Find the coordinates of the vertices of each figure after the given transformation.

9) translation: $(x, y) \rightarrow (x - 1, y - 5)$



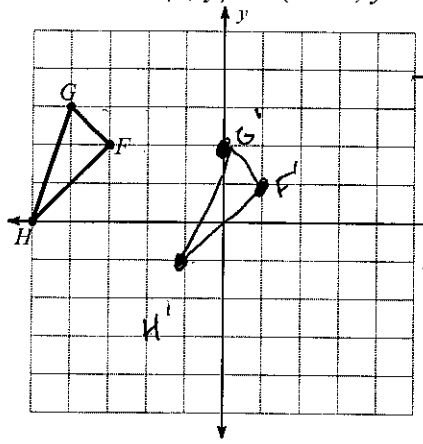
V	P	I'
I	(-3, 4)	(-4, -1)
J	(-4, 0)	(-5, -5)
H	(-1, 0)	(-2, -5)

10) translation: $(x, y) \rightarrow (x - 6, y - 1)$



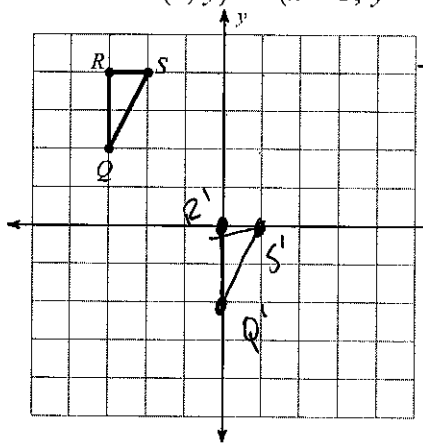
V	P	I
I	(1, 1)	(-5, 0)
J	(5, 4)	(-1, 3)
K	(5, 1)	(-1, 0)

11) translation: $(x, y) \rightarrow (x + 4, y - 1)$



V	P	I
F	(-3,2)	(1,1)
G	(-4,3)	(0,2)
H	(-5,0)	(-1,-1)

12) translation: $(x, y) \rightarrow (x + 3, y - 4)$

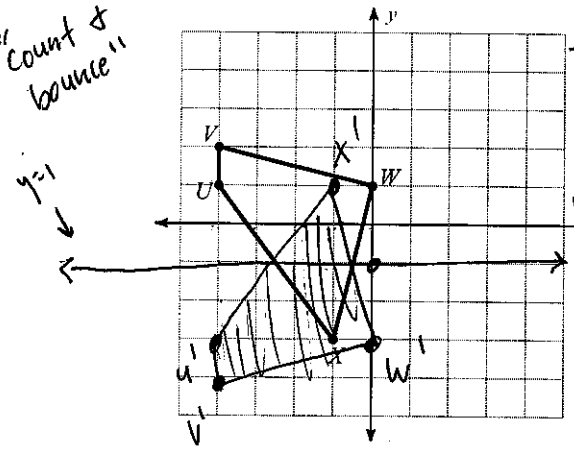


V	P	I
Q	(-3,2)	(0,-2)
R	(-3,4)	(0,0)
S	(-2,4)	(1,0)

Graph the image of the figure using the transformation given.

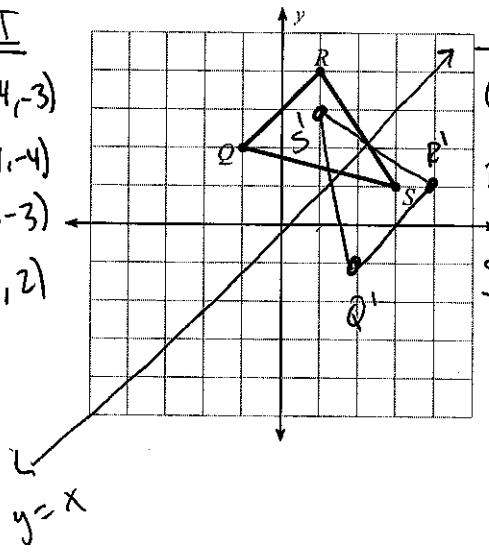
13) reflection across $y = -1$

"count & bounce"



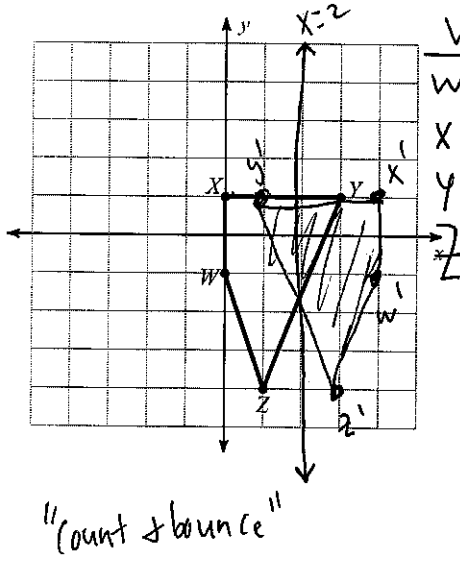
V	P	I
U	(-4,1)	(-4,-3)
V	(-4,2)	(-4,-4)
W	(0,1)	(0,-3)
X	(-1,-3)	(-1,2)

14) reflection across $y = x$ $(x,y) \rightarrow (y,x)$



V	P	I
Q	(-1,2)	(2,-1)
R	(1,4)	(4,1)
S	(3,1)	(1,3)

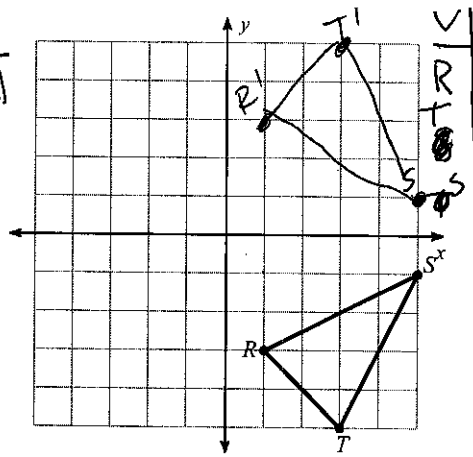
15) reflection across $x = 2$



"count & bounce"

V	P	I
W	(0,-1)	(4,-1)
X	(0,1)	(4,1)
Y	(3,1)	(1,1)
Z	(1,-4)	(3,-4)

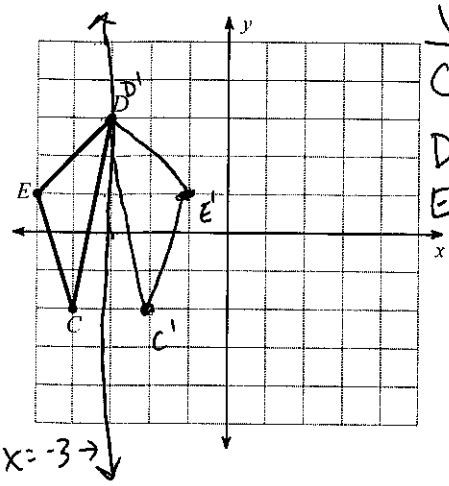
16) reflection across the x-axis



$(x,y) \rightarrow (x,-y)$

V	P	I
R	(1,-3)	(1,3)
T	(3,-5)	(3,5)
S	(5,-1)	(5,1)

17) reflection across $x = -3$

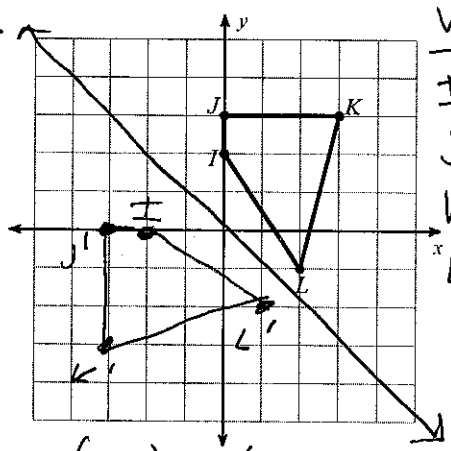


V	P	I
C	(−4, −2)	(−2, −2)
D	(−3, 3)	(−3, 3)
E	(−5, 1)	(−1, 1)

x = −3 →

"count & bounce"

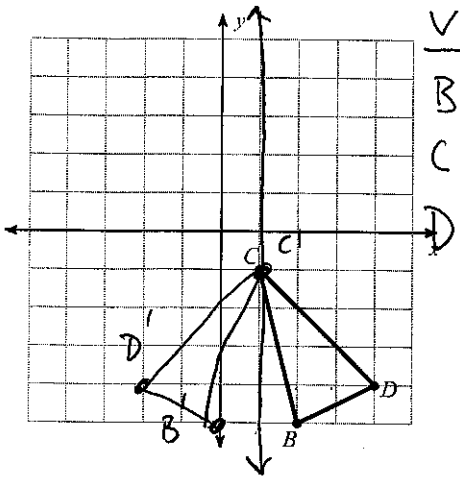
18) reflection across $y = -x$



V	P	I
I	(0, 2)	(−2, 0)
J	(0, 3)	(−3, 0)
K	(3, 3)	(−3, −3)
L	(2, 1	(1, −2)

$(x, y) \rightarrow (-y, -x)$

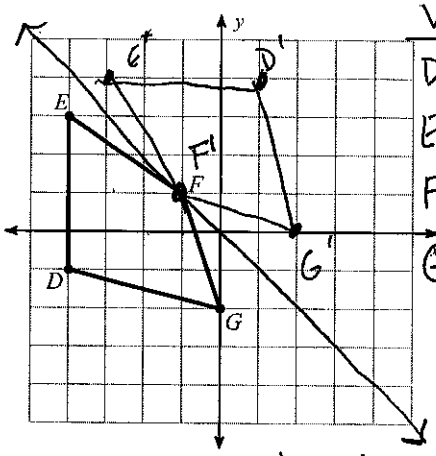
19) reflection across $x = 1$



V	P	I
B	(2, −5)	(0, −5)
C	(1, −1)	(1, −1)
D	(4, −4)	(−3, −4)

"count & bounce"

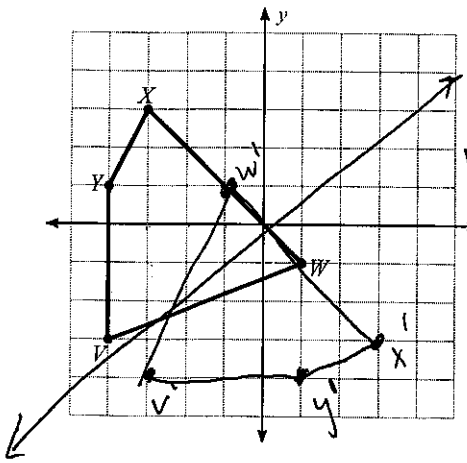
20) reflection across $y = -x$



V	P	I
D	(−4, −1)	(1, 4)
E	(−4, 3)	(−3, 4)
F	(−1, 1)	(−1, +1)
G	(0, −2)	(2, 0

$(x, y) \rightarrow (-y, -x)$

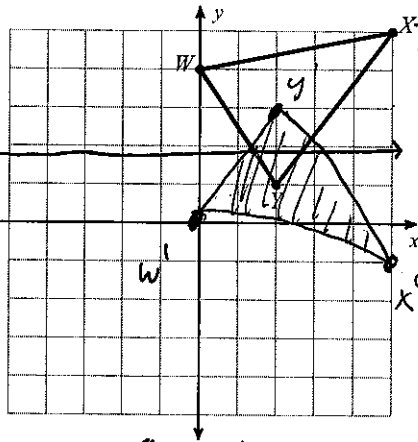
21) reflection across $y = x$



V	P	I
V	(−4, −3)	(−3, −4)
W	(1, −1)	(−1, 1)
X	(−3, 3)	(3, −3)
Y	(−4, 1)	(1, −4)

$(x, y) \rightarrow (y, x)$

22) reflection across $y = 2$



V	P	I
W	(0, 4)	(0, 0)
X	(5, 3)	(5, −1)
Y	(2, 1)	(2, 3)

"count" and bounce"

Write a rule to describe each transformation.

23) $C(-5, 0)$ to $C'(0, 5)$

A) reflection across $y = -x$
B) translation: $(x, y) \rightarrow (x + 2, y - 3)$
C) reflection across $y = 1$
D) reflection across $x = -1$

$(x, y) \rightarrow (-y, -x)$

24) $L(-1, 2)$ to $L'(5, -5)$

A) translation: $(x, y) \rightarrow (x + 4, y - 6)$
~~B) reflection across $y = x$~~
C) translation: $(x, y) \rightarrow (x + 6, y - 7)$
~~D) reflection across $y = -x$~~

25) $E(1, -5)$ to $E'(-4, -1)$

A) translation: $(x, y) \rightarrow (x - 5, y + 4)$
B) translation: $(x, y) \rightarrow (x + 3, y + 6)$
C) reflection across $y = -1$
D) translation: $(x, y) \rightarrow (x - 3, y + 6)$

26) $B(-3, 2), C(-1, 3), D(-2, -1)$
to
$B'(-4, 1), C'(-2, 2), D'(-3, -2)$

~~A) reflection across the x-axis~~
~~B) reflection across $y = x$~~
C) reflection across $x = 1$
D) translation: $(x, y) \rightarrow (x - 1, y - 1)$

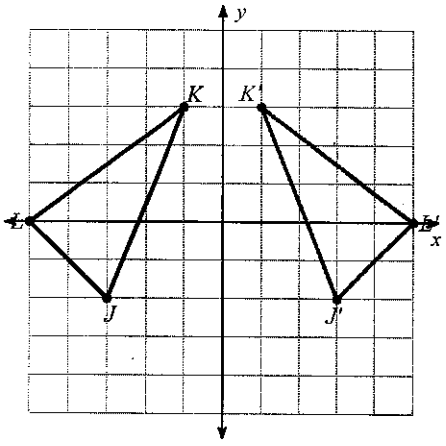
27) $E(1, 4), F(1, 5), G(4, 4)$
to
$E'(-5, -1), F'(-5, 0), G'(-2, -1)$

A) translation: $(x, y) \rightarrow (x - 4, y - 5)$
B) translation: $(x, y) \rightarrow (x - 6, y - 5)$
~~C) reflection across $x = 1$~~
~~D) reflection across $y = -x$~~

28) $M(3, 0), L(2, 5), K(5, 3)$
to
$M'(1, -1), L'(0, 4), K'(3, 2)$

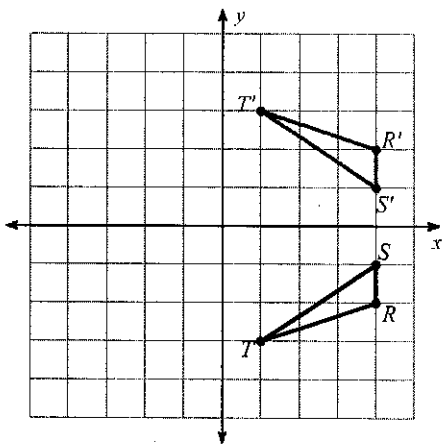
A) translation: $(x, y) \rightarrow (x - 2, y - 1)$
B) reflection across $x = 2$
C) translation: $(x, y) \rightarrow (x - 5, y - 3)$
D) reflection across $x = 1$

29)



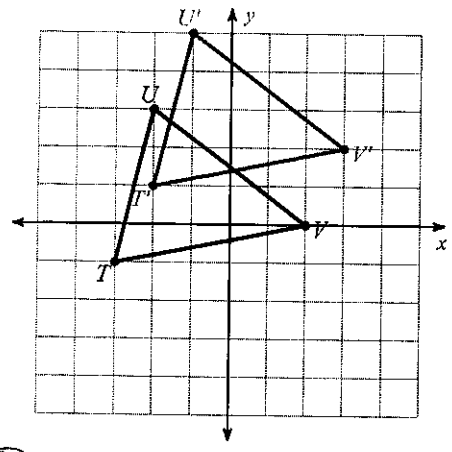
A) translation: $(x, y) \rightarrow (x + 5, y - 1)$
B) reflection across $x = -3$
C) reflection across $x = -2$
D) reflection across the y-axis

30)



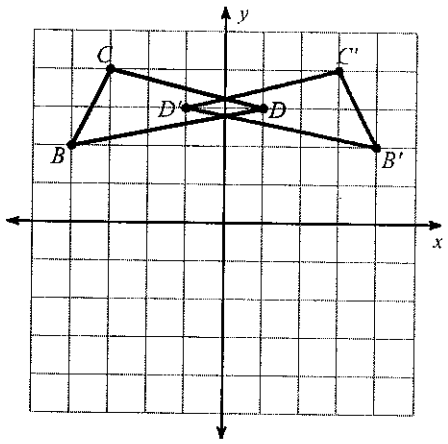
A) reflection across $x = 3$
B) reflection across the x-axis
C) reflection across $y = -x$
D) reflection across $y = -2$

31)



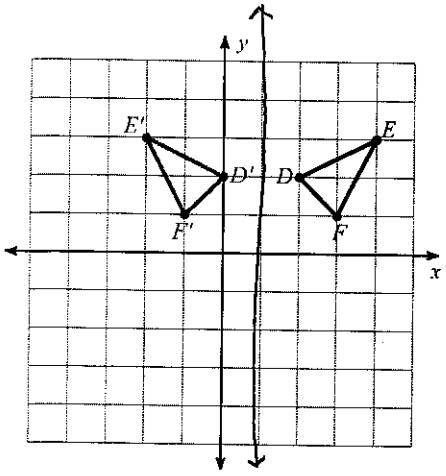
A) translation: $(x, y) \rightarrow (x + 1, y + 2)$
B) translation: $(x, y) \rightarrow (x, y + 1)$
C) reflection across the y-axis
D) translation: $(x, y) \rightarrow (x, y - 2)$

32)



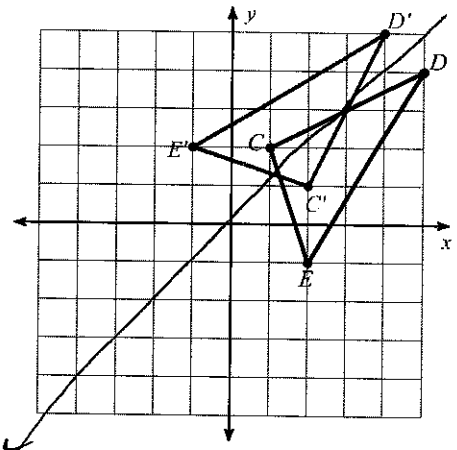
A) translation: $(x, y) \rightarrow (x - 1, y - 6)$
B) reflection across the y-axis
C) reflection across $x = -2$
D) translation: $(x, y) \rightarrow (x + 1, y - 3)$

33)



A) translation: $(x, y) \rightarrow (x - 3, y + 2)$
B) reflection across $x = 1$
C) translation: $(x, y) \rightarrow (x - 7, y - 2)$
D) reflection across $y = 3$

34)



A) translation: $(x, y) \rightarrow (x - 1, y + 1)$
B) reflection across $x = 2$
C) reflection across $y = x$
D) translation: $(x, y) \rightarrow (x - 1, y)$

Test point: D(5,4)
D'(4,5) ✓