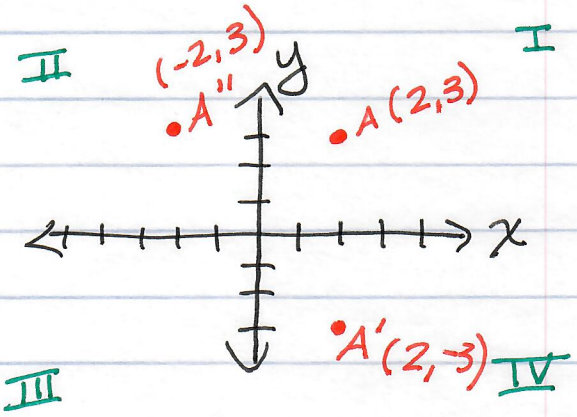
REFLECTIONS + DISTANCE IN THE COORDINATE PLANE

DEF

REFLECTION: A MIRROR IMAGE OF AN OBJECT THAT HAS BEEN "FLIPPED" OVER AN AXIS.



ORIGINAL $A(2, 3)$

x-axis $A'(2, -3)$ x-COOR STAYS SAME, y → OPP

y-axis $A''(-2, 3)$ x-COOR → OPP, y-COOR STAYED

WHEN REFLECTING A POINT ACROSS AXIS

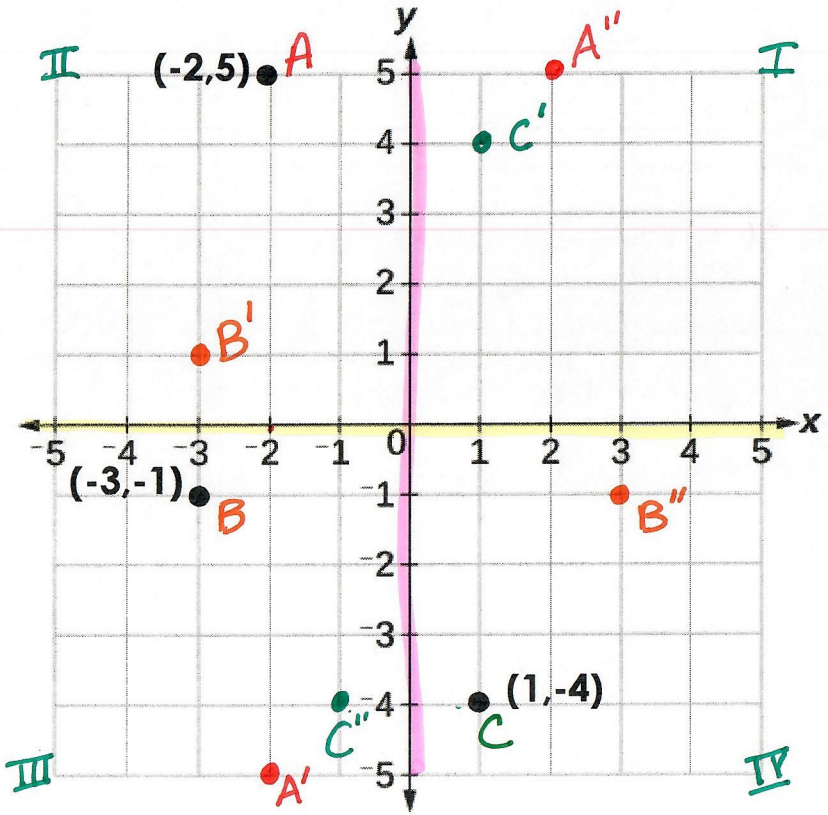
REFLECTING OVER X, { X COORDINATE STAYS SAME; Y COORDINATE IS OPPOSITE

REFLECTING OVER Y { Y COORDINATE STAYS SAME; X COORDINATE IS OPPOSITE

ORIG.	X-axis	Y-axis
$(-5, 4)$	$(-5, -4)$	$(5, 4)$
$(7, -8)$	$(7, 8)$	$(-7, -8)$

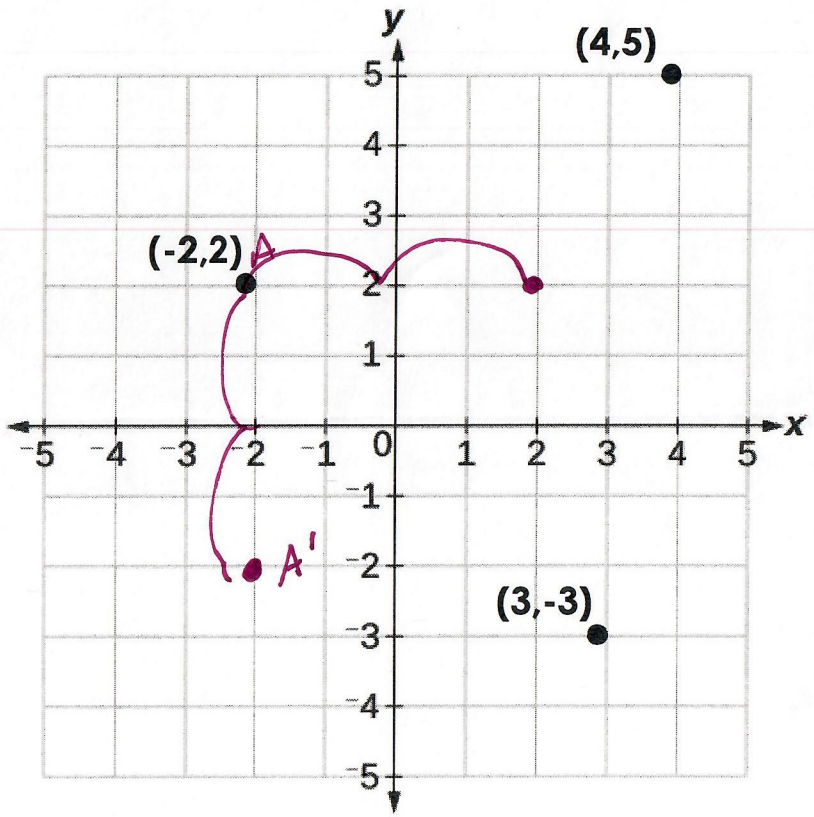
You Try:

Find the ordered pair that is a reflection over the x-axis and then the y-axis of each of the points below.



Original Point	Reflected over x-axis	Reflected over y-axis
A (-2,5)	A' (-2, -5)	A'' (2, 5)
B (-3,-1)	B' (-3, 1)	B'' (3, -1)
C (1,-4)	C' (1, 4)	C'' (-1, -4)

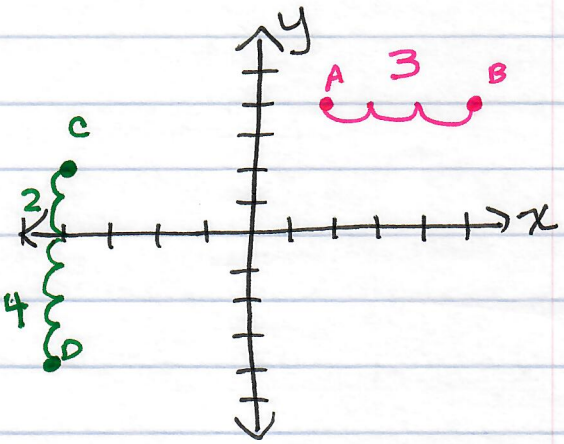
Find the ordered pair that is a reflection over the x-axis and then the y-axis of each of the points below.



Original Point (-2, 2)	Reflected over x-axis (x, y)	Reflected over y-axis
(-2,2)	(-2, -2)	(2, 2)
(4,5) (4,5)	(4, -5)	(-4, 5)
(3,-3) (3,-3)	(3, 3)	(-3, -3)

DISTANCE

C(-4, 2)
D(-4, -4)

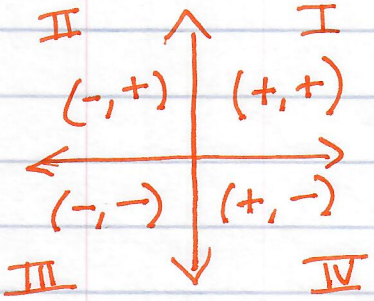


A(2,4)
B(5,4)

5-2=3

IF 2 POINTS ARE IN THE SAME QUADRANT, SUBTRACT THE COORDINATES THAT ARE DIFFERENT.

IF 2 POINTS ARE IN DIFFERENT QUADRANTS ADD THE ABSOLUTE VALUE OF THE COORDINATES THAT ARE DIFFERENT



FIND THE DISTANCE

1) (2, 9) (2, 3)
$9-3=6$

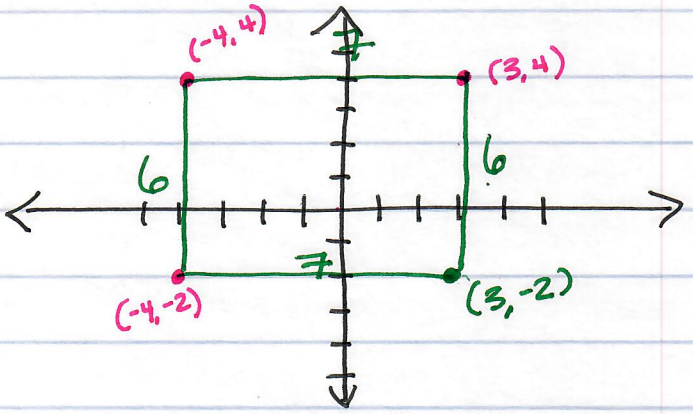
2) (-1, 4) (-1, -3)
$|4| + |-3|$
$4 + 3 = 7$

3) (3, -7) (-2, -7)
$|3| + |-2|$
$3 + 2 = 5$

AREA + PERIMETER

AREA = HOW MANY SQUARE UNITS COVER A SHAPE
ft^2 yd^2 m^2

PERIMETER = DISTANCE AROUND A FIGURE
ft yd m



$A = bh$
$A = 7 \cdot 6$
$A = 42 \text{ units}^2$

$P = 6 + 7 + 6 + 7 =$
$P = 26 \text{ units}$