Panel 1

10.2 Reflections

P

Line of Reflection

P'

Q Q'

Line of Reflection is the perp bisector of the image and the preimage

Panel 2

y = X line

(0,5)   P (5,6)

Q

P' (6,3)

R   Q'

R'   (5,0)
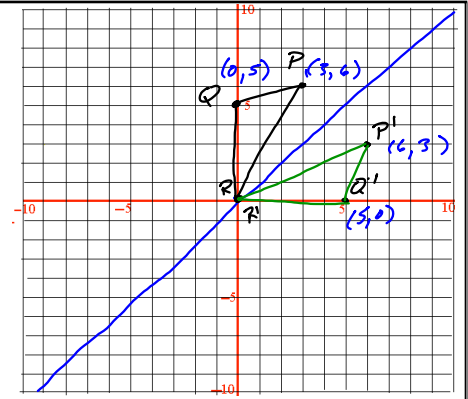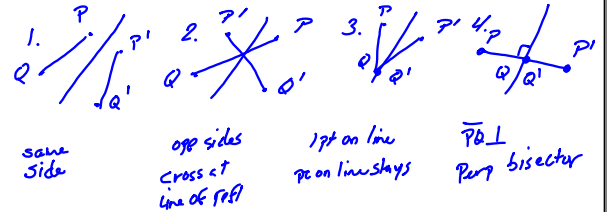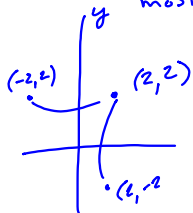
Panel 3

Thm 7.1

Reflections are Isometries

sides, angles, parallel stay same

Panel 4

When considering 2 points in a reflection there are 4 outcomes

1. P   P'   Q   Q'

2. P'   P   Q   Q'

3. P   P'   Q   Q'

4. P   Q   Q'   P'

same side

opp sides cross at line of refl

1 pt on line pt on line stays

$\overline{PQ} \perp$ perp bisector

Panel 5
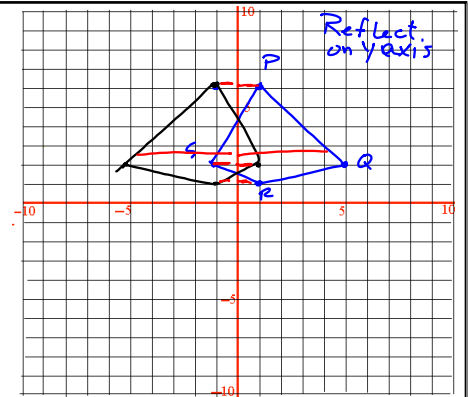
Coordinate Plane

Reflections occur on Axis most of the time

y

(-2,2)   (2,2)

(6,-2)
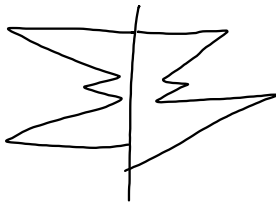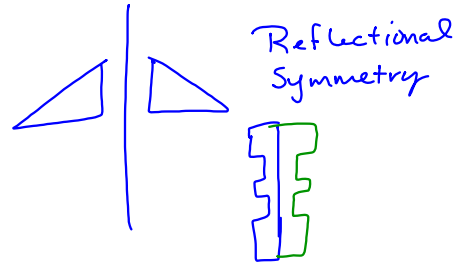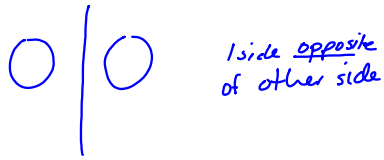
Reflect on Y-axis
$(x,y) \rightarrow (-x,y)$

Reflect on X-axis
$(x,y) \rightarrow (x,-y)$

Reflect on y=x line
$(x,y) \rightarrow (y,x)$

Panel 6

P' (-1,6)
Q' (-5,2)
R' (-1,1)
S' (1,2)

Reflect on Y axis

P

Q

S

R

Line of Symmetry

O | O

1 side _opposite_ of other side

Reflectional Symmetry

P 407 - 408

2 - 40 even

(6,0)

$QR \cong Q'R$

$PR \cong P'R$

$\angle QRP \cong \angle Q'RP'$

$\triangle QRP \cong \triangle Q'RP'$ SAS

$PQ \cong P'Q'$

corresp parts