GRADE 10 ESSENTIAL
UNIT G – TRANSFORMATIONS 2

Name: _____
Date: _____

1. Plot ***and label*** the following points on the Cartesian **(x, y)** grid.

A (0, 7)

B (4, 3)

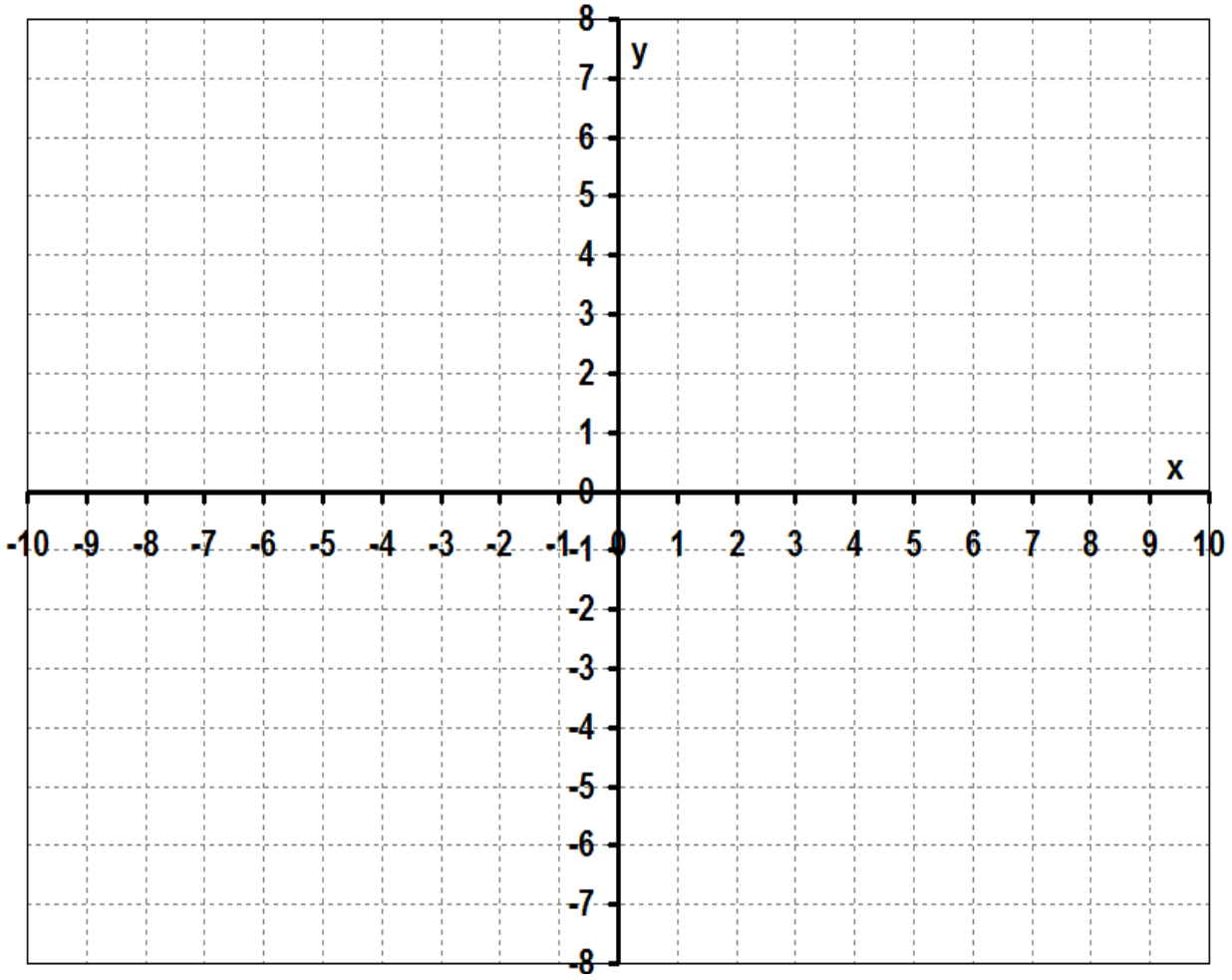
C (–7 , 8)

D ($^{-}$3, $^{-}$5)

E (8, –6)

F (0, 0)
[ie: Origin]

G (–9,4)



2. Perform a **translation** of the figures at the right by the indicated transformation:

a. the isosceles triangle (L4, U1).

b. the parallelogram (+3,–4)

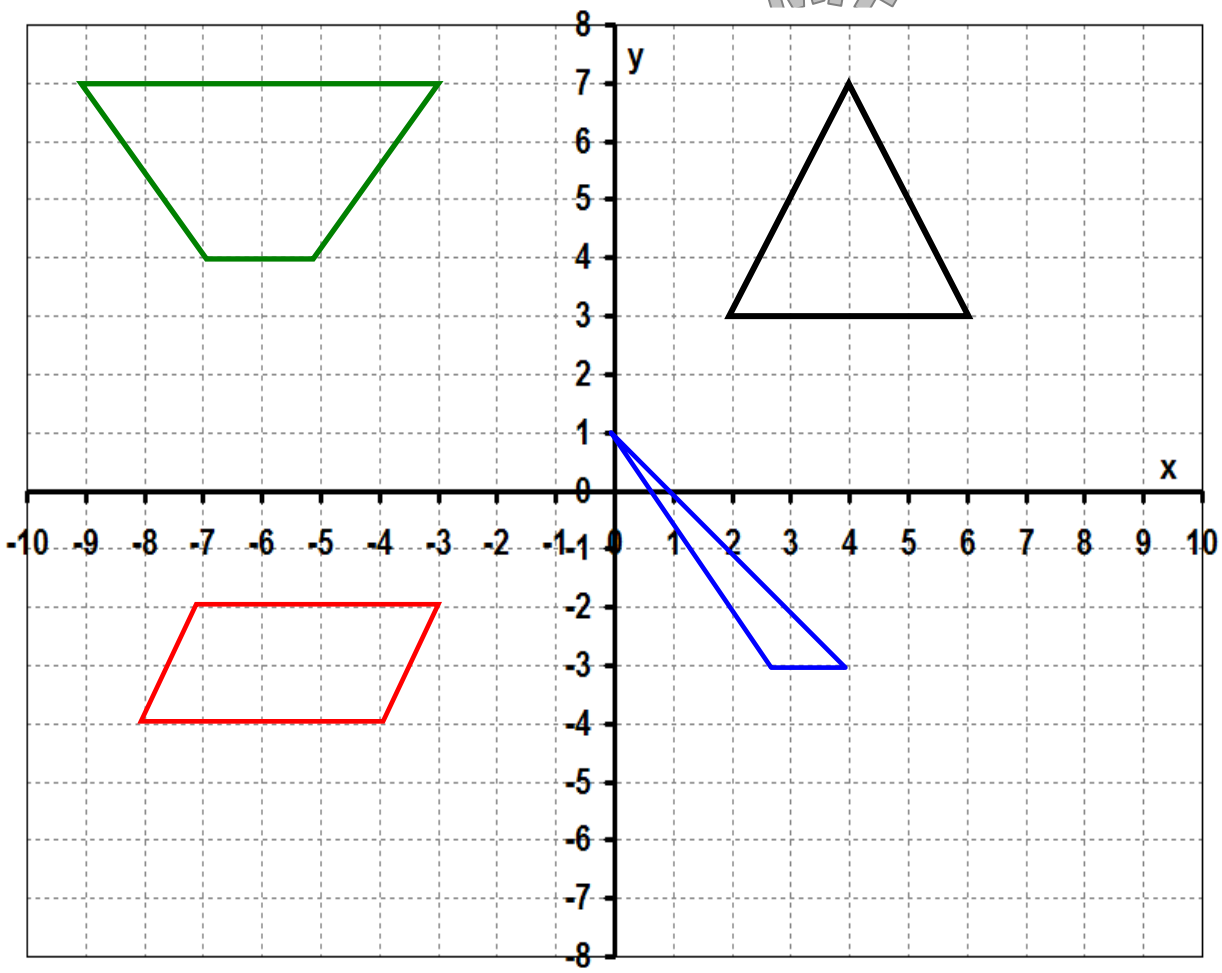
c. the trapezoid (R2, D4).

d. the acute scalene triangle $\begin{bmatrix} 1 \\ -3 \end{bmatrix}$

e. Name the 6 types of triangles!

(a) 3 By sides:

(b) 3 By Angles:



3. Perform a **reflection** of the figures by the indicated transformation:

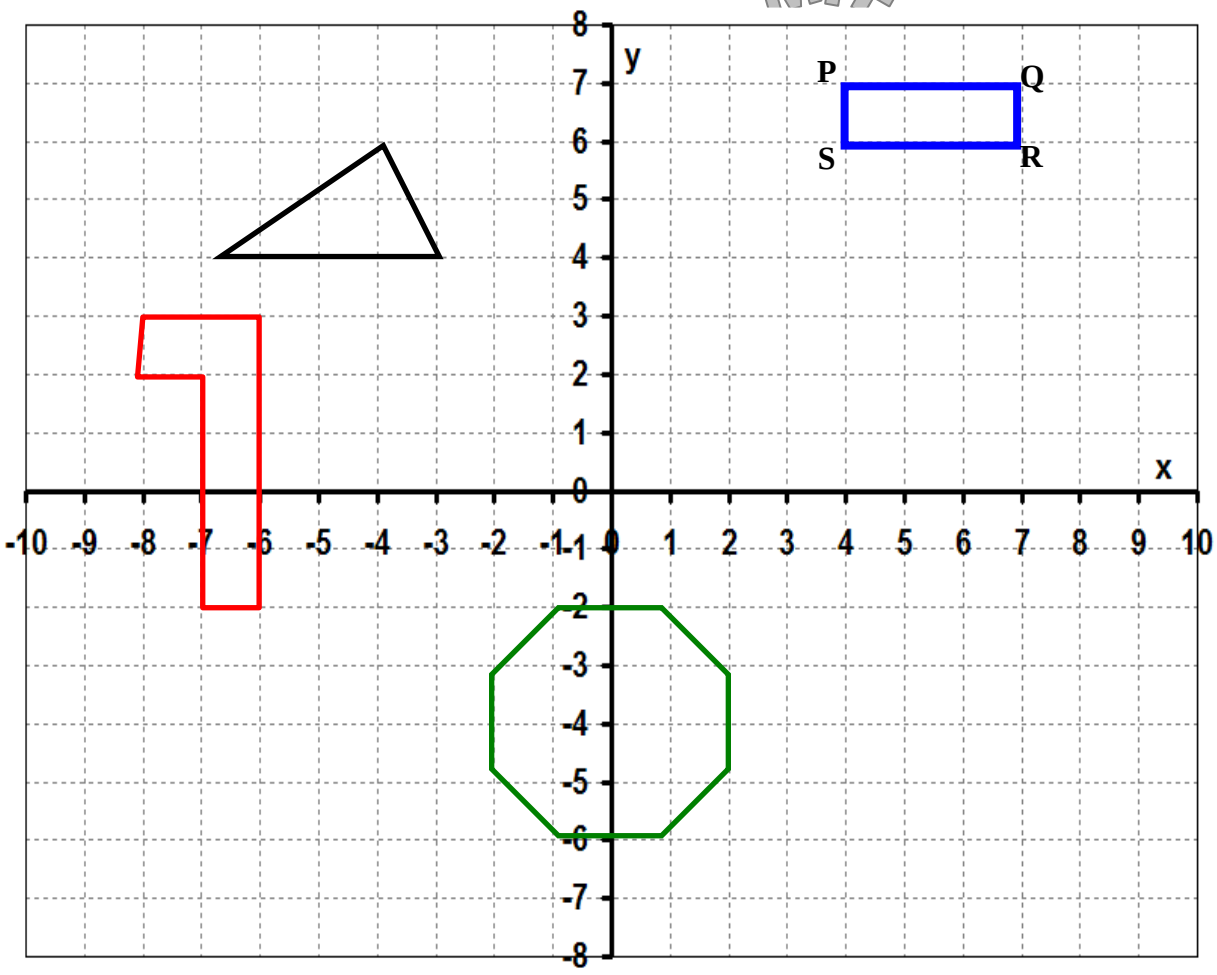
a. acute triangle ‘across’ or ‘through’ the y-axis.

b. irregular rectilinear shape through the x-axis.

c. octagon through the y-axis. [curious? Why did it not change?]

d. rectangle **PQRS** through the x-axis *and then* through the y-axis.

e. octagon through the x-axis and then a translation of $\begin{bmatrix} 3 \\ -3 \end{bmatrix}$



4. Perform a rotation about the indicated point for the following as indicated.

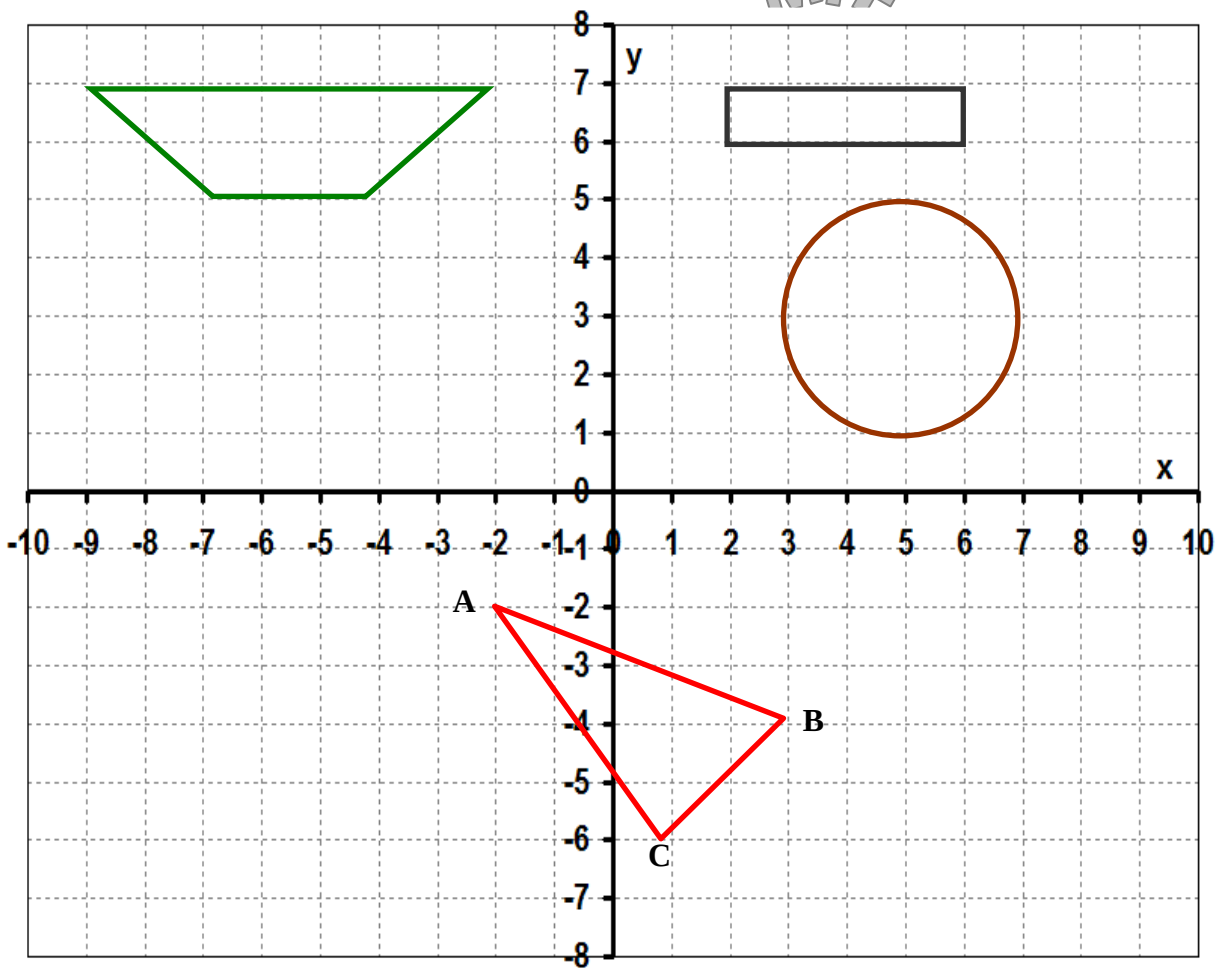
a. the rectangle, a **90°** clockwise rotation about the origin (0, 0).

b. the scalene triangle, ΔABC, a 180° rotation clockwise about corner A.

c. the trapezoid, a 90° rotation anti-clockwise.

d. the circle, a 90° rotation clockwise about the point (3,3) **then** a reflection through the y-axis.

e. you do one of your own and explain your transformation.



Did you know that a 180° rotation is just making all x distances from the centre of rotation the opposite sense (eg: plus 4 or 4 to the right of the centre of rotation becomes negative 4) and all the 'y' distances from the centre of rotation the opposite sense too!

Did you know that with a reflection across the y-axis; the x-coordinates of the point become the opposite sense and the y's stay the same! And same analogous idea with a reflection across the x-axis.