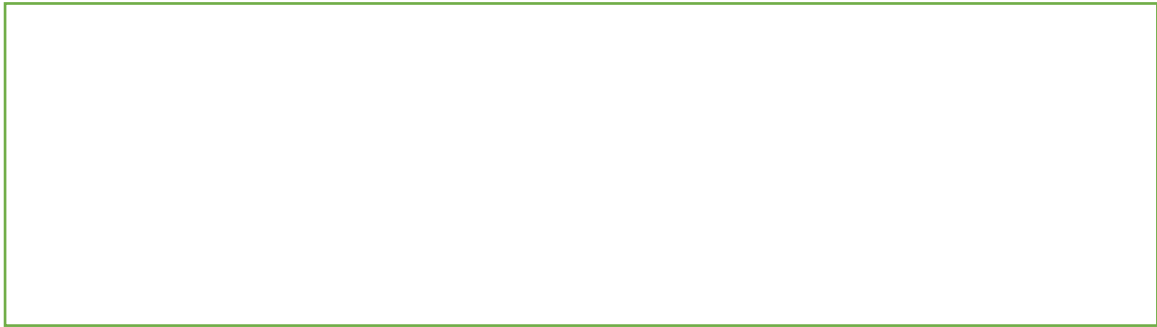<u>Distances between points</u>

Examples

Find the distance between

$(3,4)$ and $(5,7)$

$(5,1)$ and $(6,-3)$

$(0,-2)$ and $(-1,3)$

Test Your Understanding

Find the distance between:
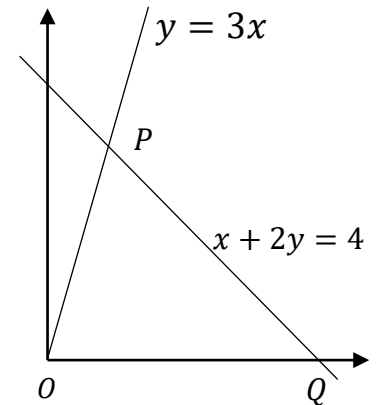
$(1,10)$ and $(4,14)$

$(3,-1)$ and $(0,1)$

$(-4,-2)$ and $(-12,4)$

Area of Shapes

Example 1

The diagram shows two lines with equations $y = 3x$

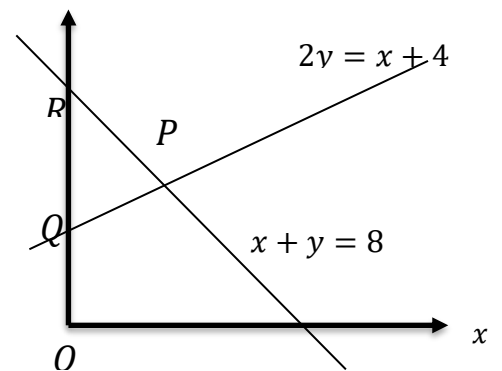and $x + 2y = 4$, which intersect at the point P.

a)Determine the coordinates of P.

b) The line $x + 2y = 4$ intersects the x-axis at the point Q. Determine the area of the triangle OPQ.
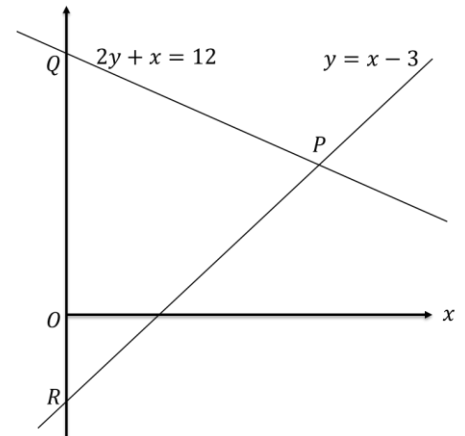
When $y = 0$, $x = 4$

Example 2

a)Determine the length of PQ

b) Determine the area PQR.

Test Your Understanding:

a) Determine the coordinate of P.

b) Determine the area of PQR.

c) Determine the length PQ.

Extension
[MAT 2001 1C]
The shortest distance from the origin to the line $3x + 4y = 25$ is what?