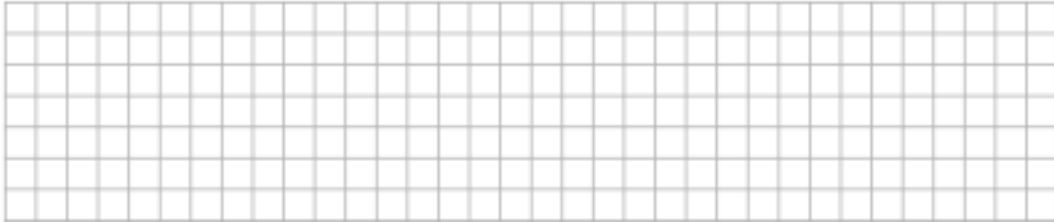


Coordinate Geometry of the Line – 1

Distance, Slope, Parallel Lines, Perpendicular Lines & Midpoint

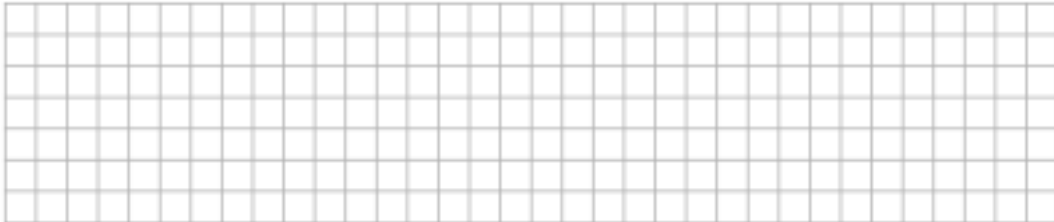
Question 1

Find the distance between the points $(-7,-3)$ and $(-2,2)$



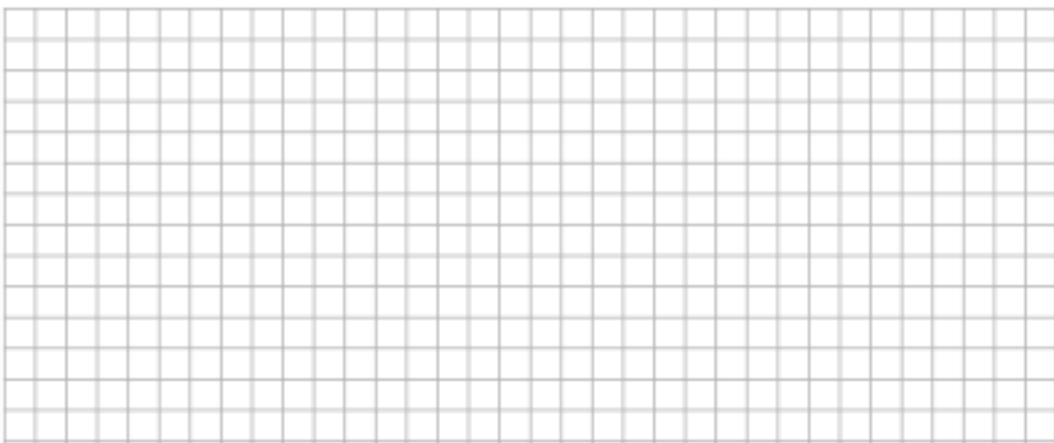
Question 2

$a(3,6)$ and $b(-1,3)$ are two points, Find $|ab|$.



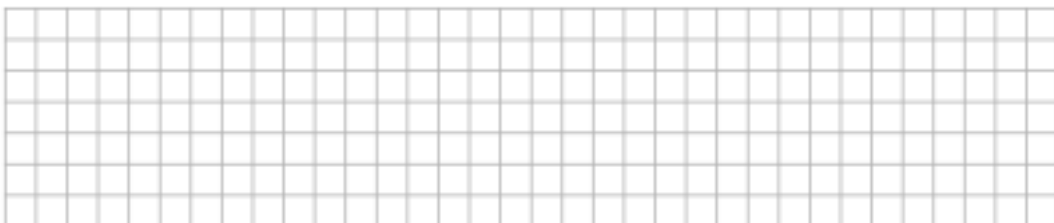
Question 3

$X(-3,1)$ and $Y(4,-2)$ are two points. Find the length of the line segment $[XY]$. Give your answer in surd form.



Question 4

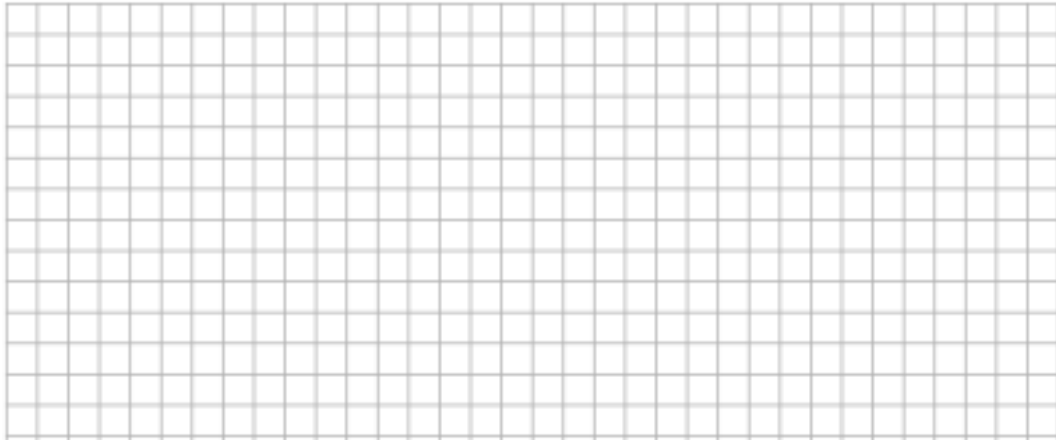
Find the midpoint of the line segment joining the points $(-5,3)$ and $(2,-2)$.



Question 5

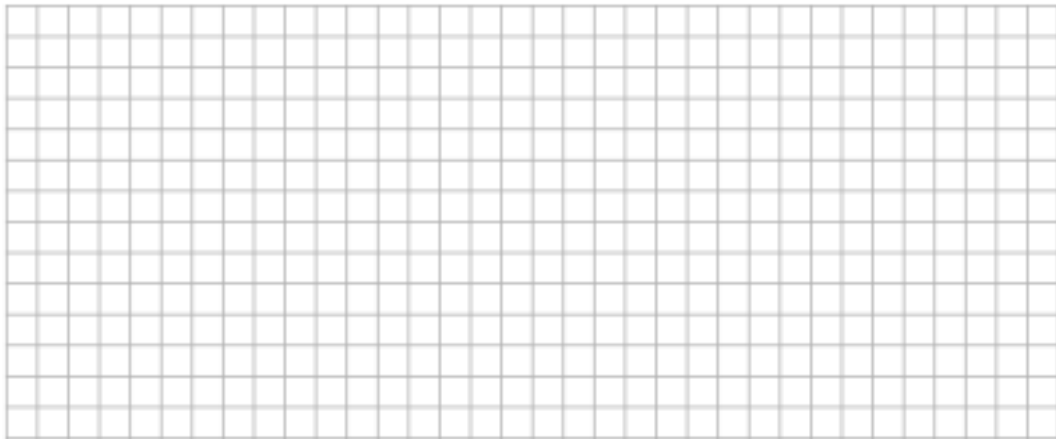
a(3,-2) and b(-1,1) are two points.

- i. Find the co-ordinates of the midpoint of $[ab]$.
- ii. Find $|ab|$



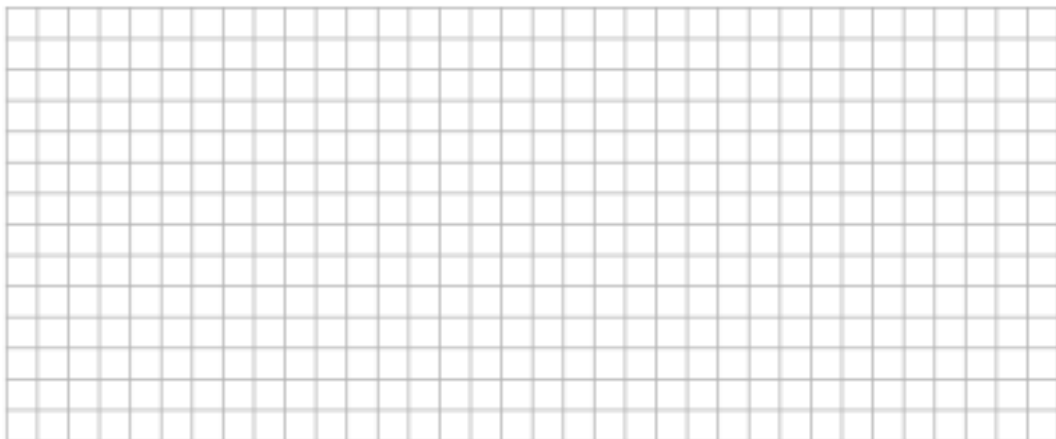
Question 6

p(2,4) and q(5,1) are two points. q is the midpoint of $[pr]$. Find the co-ordinates of r.



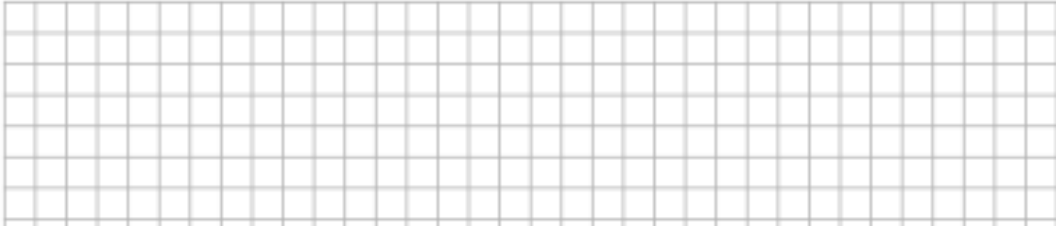
Question 7

s(-1,2) is the midpoint of $[PQ]$ and P is the point (-2,-4). Find the co-ordinates of Q.



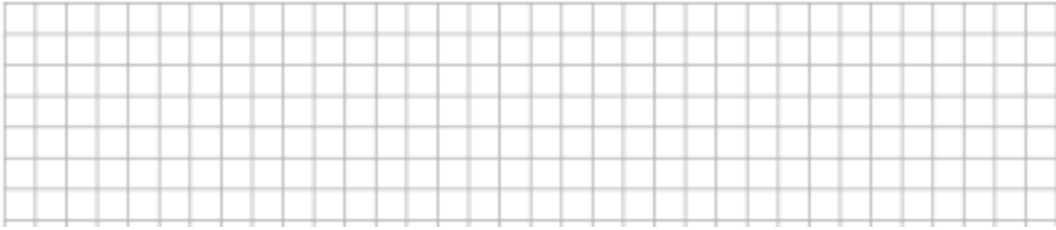
Question 8

Find the slope of the line containing the points (2,4) and (5,9)



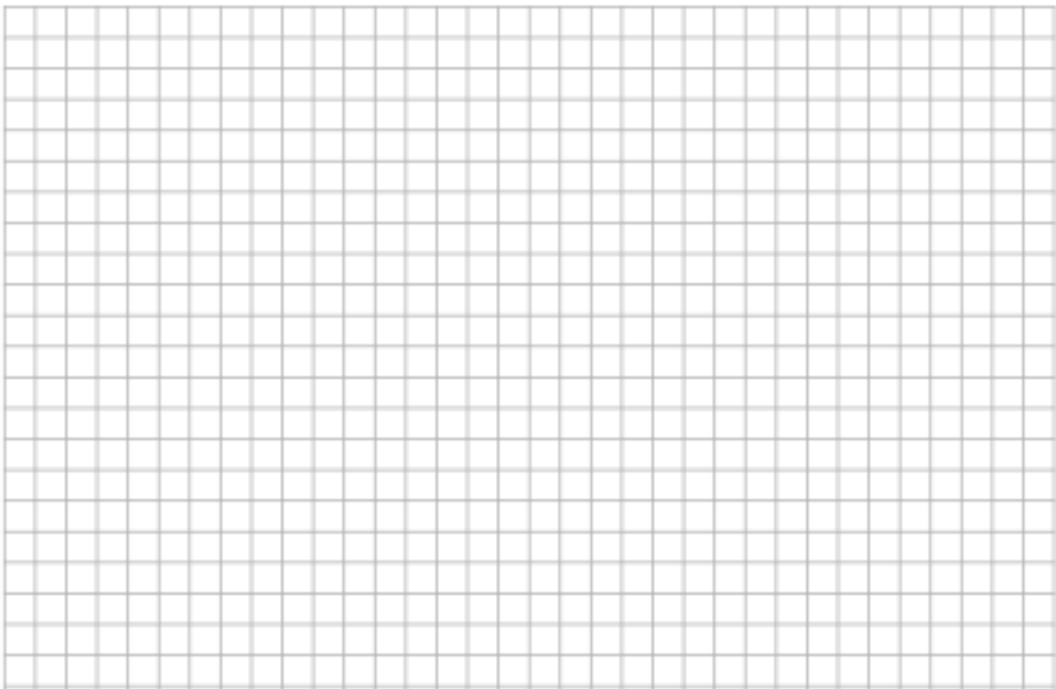
Question 9

$p(-1,2)$ and $r(3,4)$ are two points. Find the slope of pr .



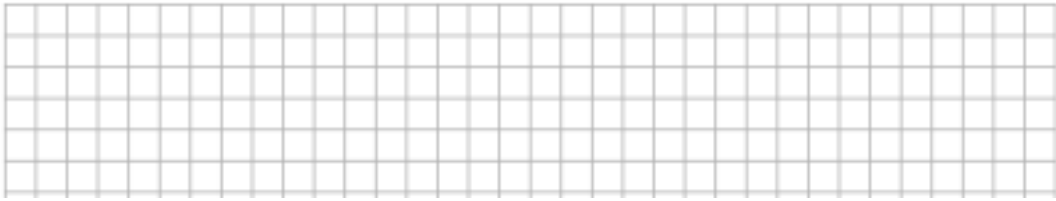
Question 10

$a(-3,0)$ $b(8,10)$ $c(-2,-2)$ $d(10,6)$ are four points. A student claims that the line from b to d is parallel to the line from a to c . Is the student correct? Give reason for your answer?



Question 11

Show that the line segment $[pq]$ is perpendicular to the line segment $[rs]$ if the points are as follows:
 $p(3,4)$, $q(5,7)$, $r(-1,1)$ and $s(-4,3)$



Question 12

If $p(2,3)$, $q(5,-1)$ and $r(9,2)$ are 3 points. Prove $\angle pqr$ is a right angle.

NOTE: If there is a right angle, the 2 lines must be perpendicular.

