

Straight Lines and Shape Problems

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1) Straight Lines and Shape Problems: Easier

1) A and B are straight lines.

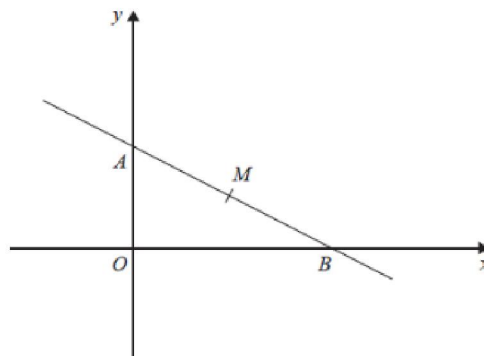
Line A has equation $2y = 3x + 8$. Line B goes through the points $(-1, 2)$ and $(2, 8)$

Do lines A and B intersect?

You must show all your working.

(2 Marks)

2)



In the diagram

A is the point $(0, 4)$

B is the point $(6, 0)$

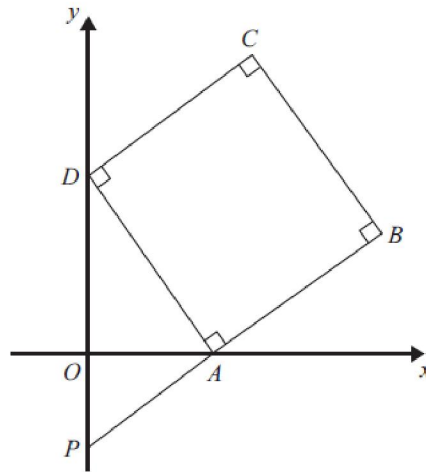
M is the midpoint of AB .

Find an equation of the line that passes through M and is perpendicular to AB .

(2 Marks)

1) Straight Lines and Shape Problems: Medium

3)



$ABCD$ is a square
 P and D are points on the y -axis
 PAB is a straight line.

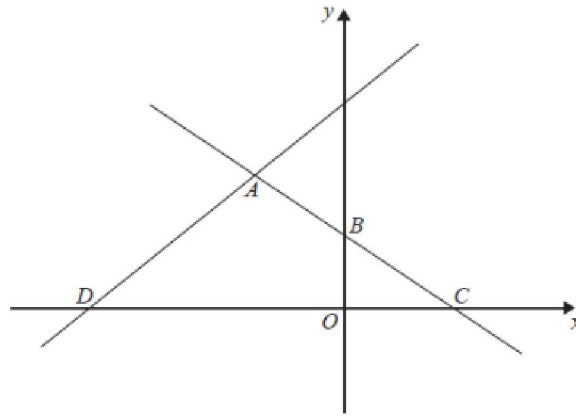
The equation of the line that passes through the points A and D is $y = -2x + 5$

Find the length of PD .

(2 Marks)

1) Straight Lines and Shape Problems: Harder

4)



In the diagram, ABC is the line with equation $y = -\frac{1}{2}x + 5$

$$AB = BC$$

D is the point with coordinates $(-13, 0)$

Find an equation of the line through A and D

(2 Marks)