

Exercise walk-through

4.4

Constructions

Pearson Edexcel · International GCSE · Mathematics A

Exercises 2.1·2.3

2.1 (Foundation) Find the midpoint x-coordinate between $(0,0)$ and $(6,0)$.

2.2 (Foundation) Find the positive y-coordinate on $x=3$ and $x^2+y^2=25$.

2.3 (Foundation) Find the distance from $(3,4)$ to $(0,0)$.

3 Exam-style questions

Exercises 2.1·2.3

2.1 (Foundation) Find the midpoint x-coordinate between (0,0) and (6,0).

2.1 Midpoint x-coordinate = $(0+6)/2=3$.

2.2 (Foundation) Find the positive y-coordinate on $x=3$ and $x^2+y^2=25$.

2.2 At $x=3$, $y^2=25-9=16$. The positive y-coordinate is 4.

2.3 (Foundation) Find the distance from (3,4) to (0,0).

3 Exam-style questions

2.3 Distance = $\sqrt{3^2+4^2}=5$.

Exercise 3.1

3.1 Decide whether this claim is true. Justify with a concrete calculation or counterexample: Points equally distant from two points always lie on their angle bisector.

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3.1 False. $A=(-1,0)$, $B=(1,0)$: all points $(0,y)$ are equally distant from A and B, forming the perpendicular bisector of AB. Two points alone do not specify the vertex and two arms of an angle bisector.

Local review guidance: show the chosen method; give the checked result; explain the condition or failed shortcut. This is authored classroom guidance.