



Class 9 Maths Chapter 1 – Exercise 1.2

Orienting Yourself: The Use of Coordinates

Exercise 1.2 applies coordinates to **Reiaan's house layout**, including furniture placement, doors, bathroom spaces and the dining room. It contains **4 questions**.



Question 1 – Reiaan's Study Table

The three feet of the rectangular study table are at:

- A = (8, 9)
- B = (11, 9)
- C = (11, 7)

(i) Where will the fourth foot be?

Since the table is rectangular, the fourth point must have:

- x-coordinate = 8
- y-coordinate = 7

Therefore,



Answer: (8, 7)

(ii) Is this a good spot for the table?

Yes. The table is placed appropriately within the room without blocking the door or other objects and leaves enough space for movement.

(iii) What is the width and length of the table? Can you determine its height?

Width:

$$9 - 7 = 2 \text{ units}$$

Length:

$$11 - 8 = 3 \text{ units}$$

The **height cannot be determined** from the coordinate plane because the diagram gives only the positions of the feet.

✓ **Answer:**

- Width = 2 units
 - Length = 3 units
 - Height = Cannot be determined
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Question 2 – Bathroom Door and Wardrobe

The bathroom door has hinge:

$$B_1 = (0, 1.5)$$

The other end is:

$$B_2 = (0, 4)$$

Door width

$$4 - 1.5 = 2.5 \text{ units}$$

The wardrobe begins at:

$$W_1 = (3, 0)$$

So the nearest part of the wardrobe is **3 units** from the y-axis.

Since:

$$2.5 < 3$$

the door will **not hit the wardrobe** when opened.

✓ **Answer:**

No, the bathroom door will not hit the wardrobe.

If the door is made wider than **3 units**, it may hit the wardrobe. Therefore, the wardrobe could be moved farther away or the door width could be reduced.

Question 3 – Reiaan’s Bathroom

(i) Coordinates of O, F, R and P

From the given figure:

- $O = (0, 0)$
- $P = (-6, 0)$
- $F = (0, 9)$
- $R = (-6, 9)$

 **Answer:**

$O(0,0)$, $P(-6,0)$, $F(0,9)$, $R(-6,9)$

(ii) Shape of showering area SHWR

The four corners are:

- $S = (-6, 6)$
- $H = (-3, 6)$
- $W = (-2, 9)$
- $R = (-6, 9)$

The shape is a **trapezium**, since it has one pair of parallel sides.

 **Answer:**

SHWR is a trapezium.

(iii) Washbasin and toilet spaces

One valid arrangement is:

 **Washbasin — 3 ft × 2 ft**

Corners:

- $(-6, 0)$
- $(-3, 0)$
- $(-3, 2)$
- $(-6, 2)$



Toilet — 2 ft × 3 ft

Corners:

- $(-6, 6)$
- $(-4, 6)$
- $(-4, 3)$
- $(-6, 3)$

These spaces fit within the bathroom and satisfy the required dimensions.

Note: Since the question asks students to *mark off* spaces, more than one suitable arrangement may be possible.

Question 4 – Dining Room

(i) Coordinates of the dining-room corners

The dining room has:

- Length = 18 ft
- Width = 15 ft

It extends from:

P = $(-6, 0)$ to A = $(12, 0)$

Since it extends 15 units below the x-axis:

- **P = $(-6, 0)$**
- **A = $(12, 0)$**
- **B = $(12, -15)$**
- **C = $(-6, -15)$**



Answer:

P(-6,0), A(12,0), B(12,-15), C(-6,-15)

(ii) Place a 5 ft × 3 ft dining table exactly at the centre.

The centre of the dining room is:

Length = 18 ft → half = **9 ft**

Width = 15 ft → half = **7.5 ft**

Starting from **P(-6, 0)**:

$$-6 + 9 = 3$$

Therefore, centre:

(3, -7.5)

The table is 5 ft × 3 ft, so half-dimensions are:

- $5 \div 2 = \mathbf{2.5 \text{ ft}}$
- $3 \div 2 = \mathbf{1.5 \text{ ft}}$

Therefore, the four feet/corners of the dining table are:

✓ **(0.5, -6)**

✓ **(5.5, -6)**

✓ **(5.5, -9)**

✓ **(0.5, -9)**



Exercise 1.2 – Quick Answer Key

Question

Answer

1(i) Fourth foot = **(8, 7)**

- 1(ii) Yes, suitable spot
- 1(iii) Width = **2 units**, Length = **3 units**, Height cannot be determined
- 2 Door width = **2.5 units**; it will **not hit** the wardrobe
- 3(i) $O(0,0)$, $P(-6,0)$, $F(0,9)$, $R(-6,9)$
- 3(ii) SHWR = **Trapezium**
- 3(iii) Washbasin and toilet coordinates as given above
- 4(i) $P(-6,0)$, $A(12,0)$, $B(12,-15)$, $C(-6,-15)$
- 4(ii) Table corners = **$(0.5,-6)$, $(5.5,-6)$, $(5.5,-9)$, $(0.5,-9)$**

Important: For Questions 3(iii), the placement is not necessarily unique; the coordinates above represent **one valid arrangement** satisfying the required dimensions.