

## UNIT 14 *Straight Line Graphs*

## Overhead Slides

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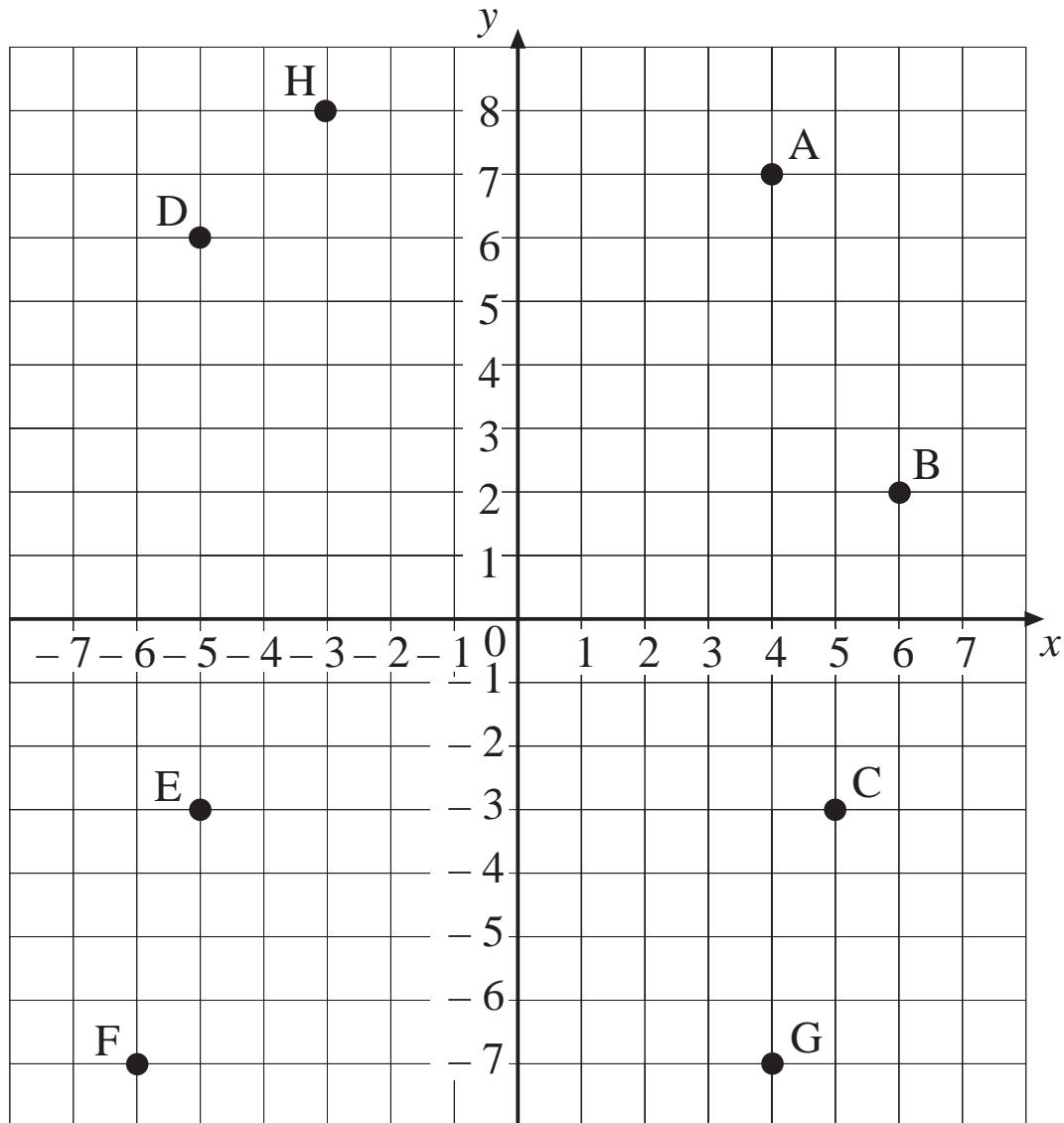
### Overhead Slides

- 14.1 Coordinates 1
- 14.2 Coordinates 2
- 14.3 Plotting Straight Lines 1
- 14.4 Plotting Straight lines 2
- 14.5 Gradients
- 14.6 Equations and Lines
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- 14.8 Equations and Points

## OS 14.1

*Coordinates 1*

What are the coordinates of each of the points marked on the following set of axes?



A (     ,     )

B (     ,     )

C (     ,     )

D (     ,     )

E (     ,     )

F (     ,     )

G (     ,     )

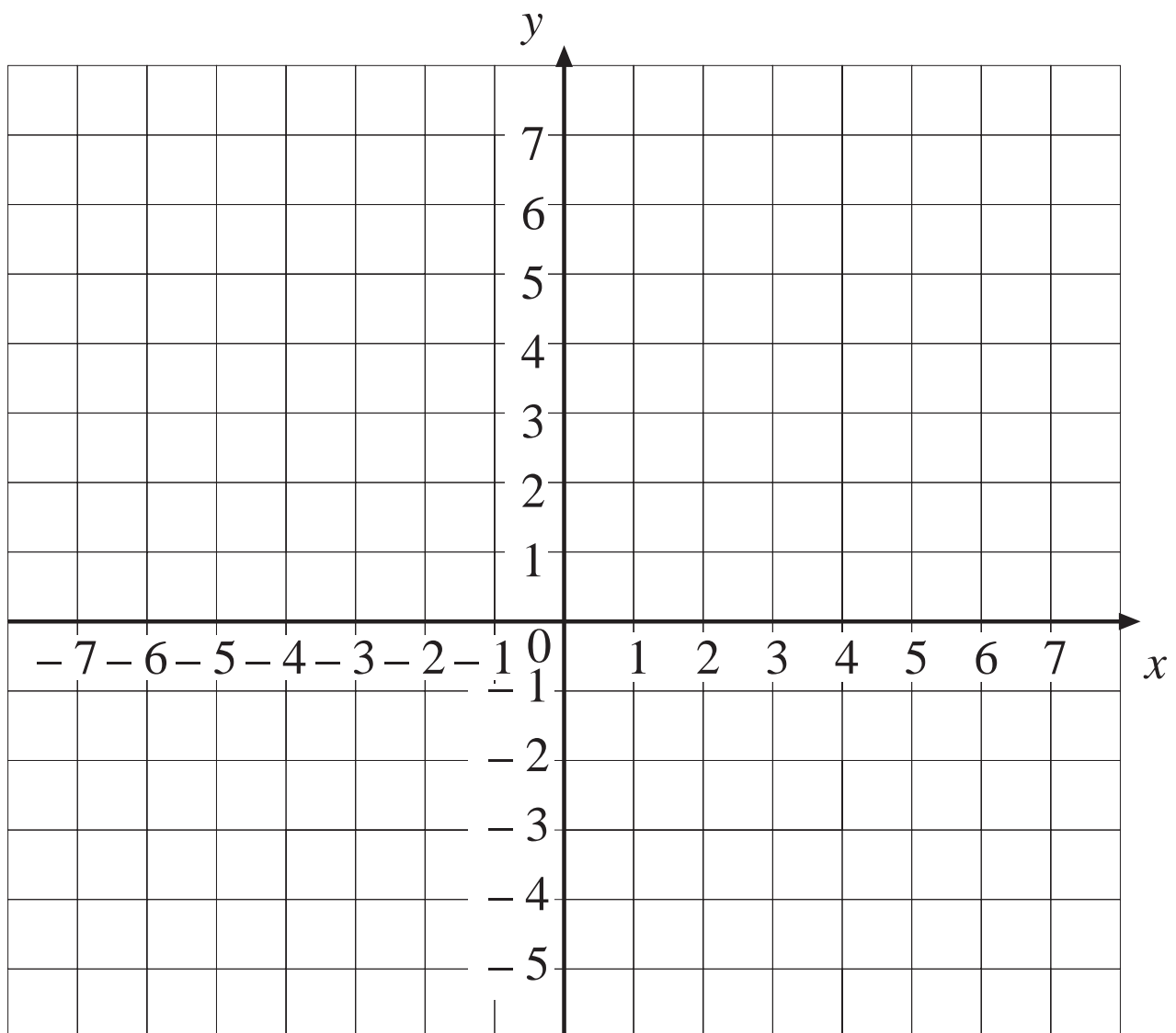
H (     ,     )

# OS 14.2

## Coordinates 2

Join in order the points with the following coordinates:

$(4, -1)$ ,  $(5, 2)$ ,  $(3, 5)$ ,  $(-1, 5)$ ,  $(-3, 2)$ ,  $(-2, -1)$ ,  $(1, -2)$



What is the name of the shape you have drawn?

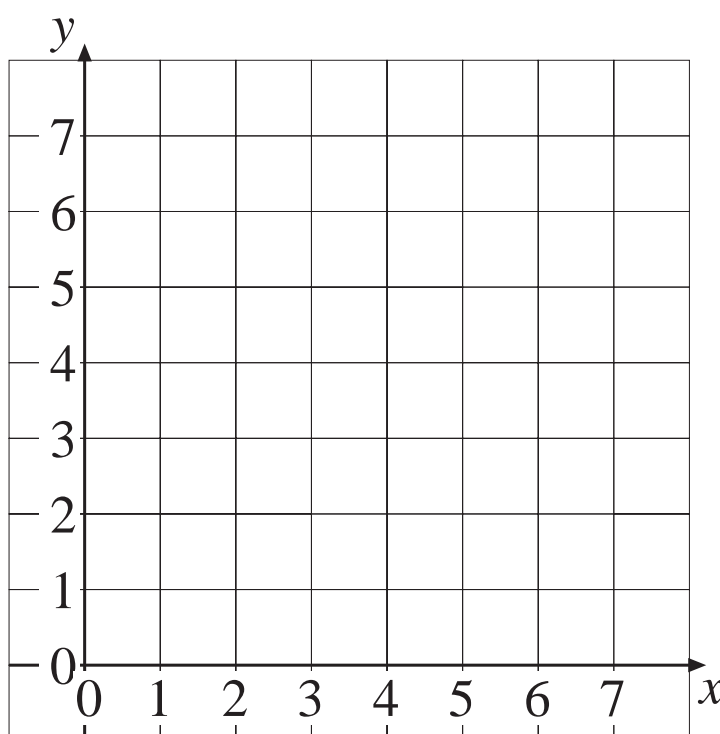
# OS 14.3

## *Plotting Straight Lines 1*

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On the set of axes shown, plot the points with the following coordinates:

$(0, 2)$ ,  $(1, 3)$ ,  $(2, 4)$ ,  $(3, 5)$ ,  $(4, 6)$ ,  $(5, 7)$



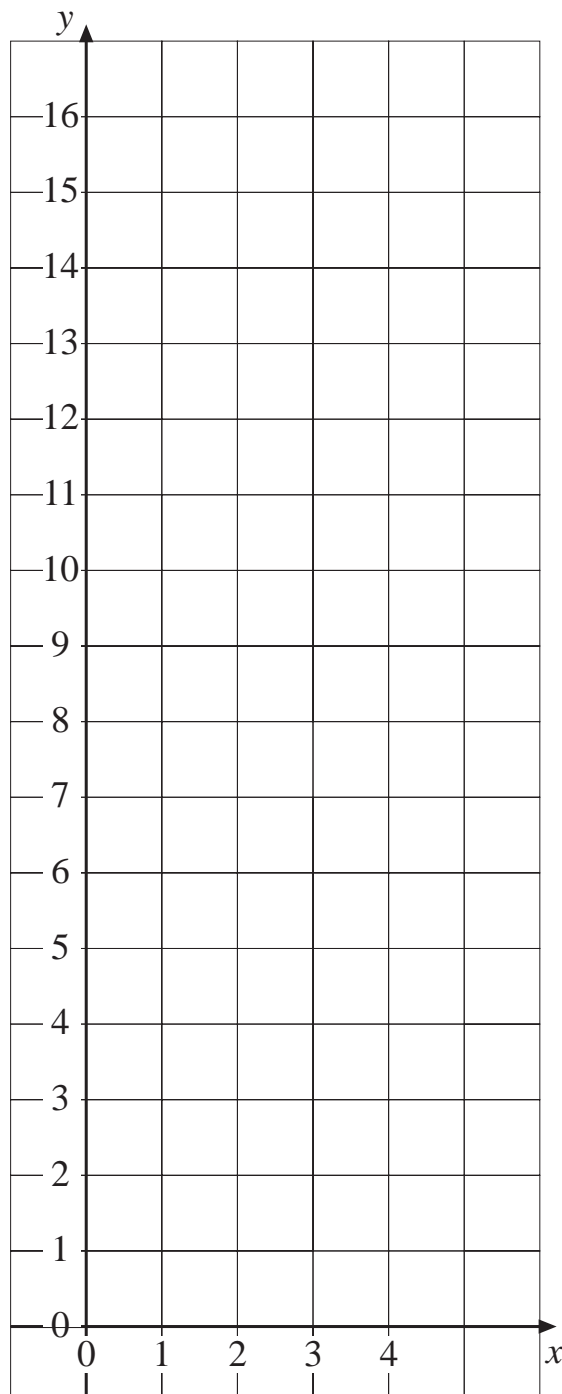
Draw a straight line through the points.

What is the relationship between the  $x$ -coordinate and the  $y$ -coordinate?

**OS 14.4***Plotting Straight Lines 2*

On the set of axes shown, plot the points with the following coordinates:

$(0, 0)$ ,  $(1, 4)$ ,  $(2, 8)$ ,  $(3, 12)$ ,  $(4, 16)$



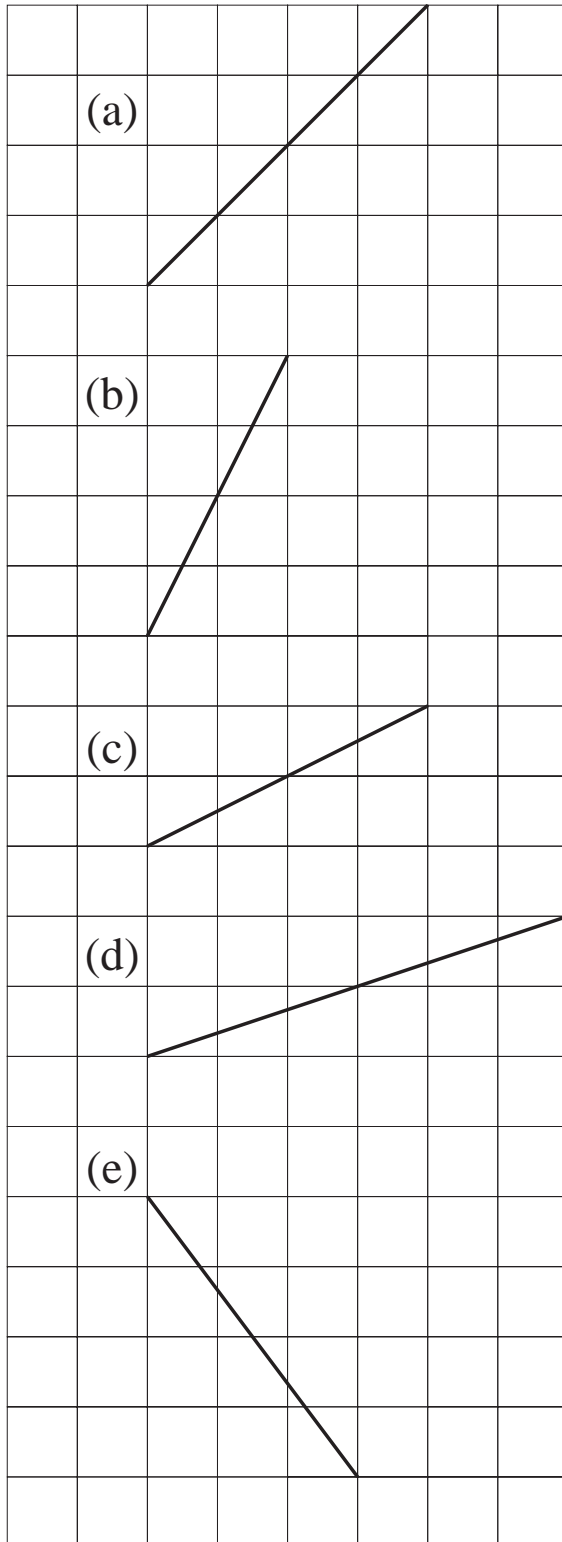
Draw a straight line through the points.

What is the relationship between the  $x$ -coordinate and the  $y$ -coordinate?

# OS 14.5

## Gradients

Calculate the gradient of each of the lines shown:



Gradient =

Gradient =

Gradient =

Gradient =

Gradient =

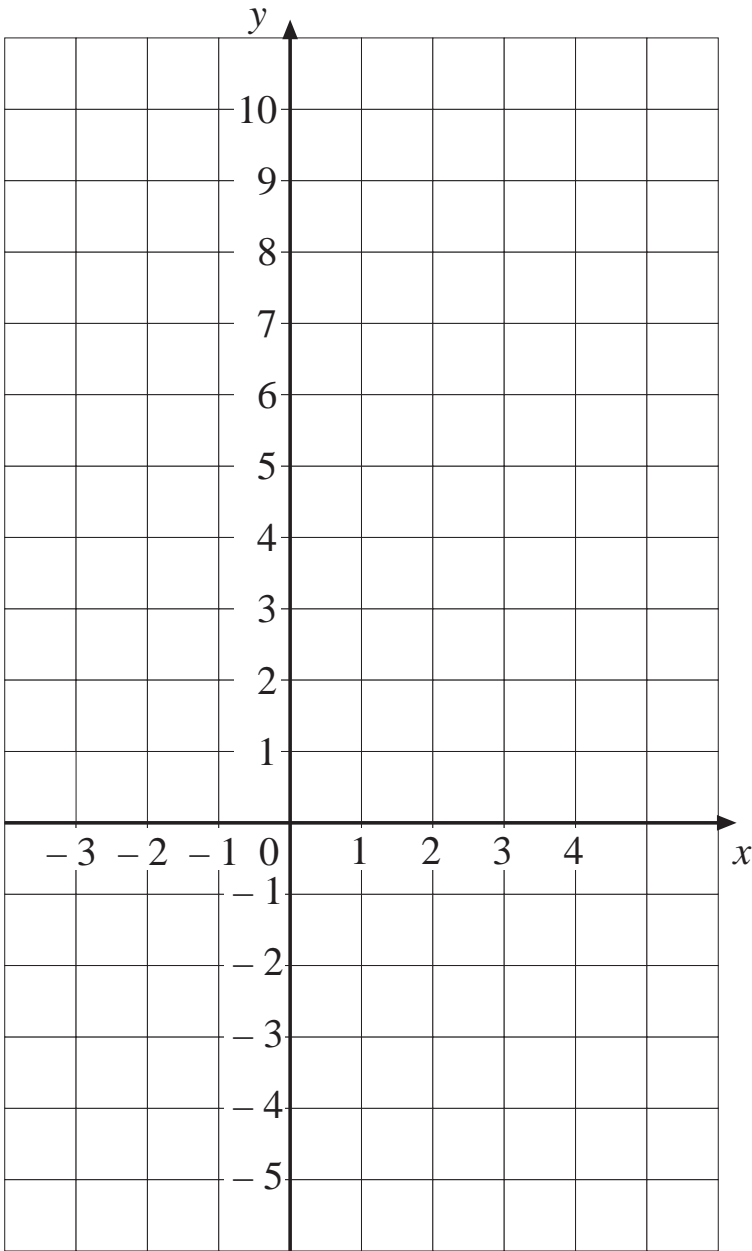
OS 14.6

*Equations and Lines*

Complete the following table for  $y = 3x + 1$ .

|     |      |      |     |     |     |     |
|-----|------|------|-----|-----|-----|-----|
| $x$ | $-2$ | $-1$ | $0$ | $1$ | $2$ | $3$ |
| $y$ |      |      |     |     |     |     |

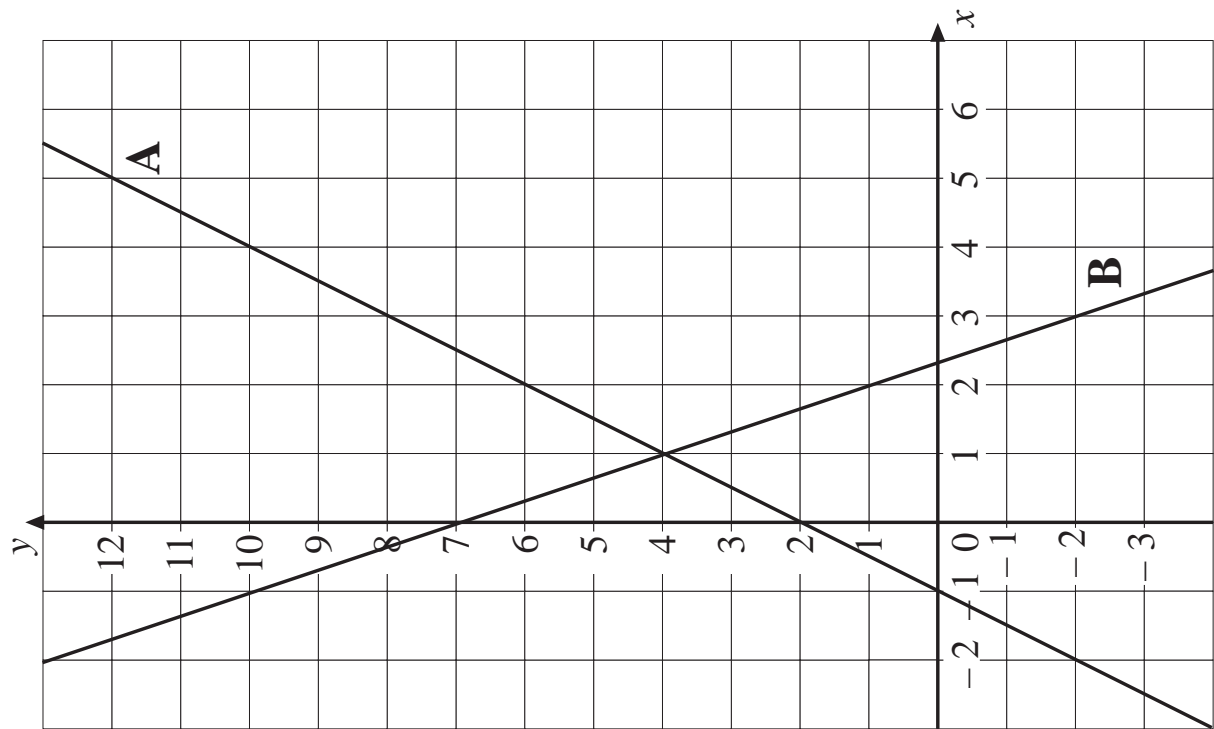
Use the information to plot the graph with equation  $y = 3x + 1$  on the axes shown.



OS 14.7

The Equation of a Straight Line

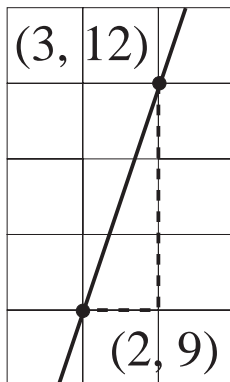
1. What is the gradient of
- (a) line A  
Gradient,  $m$ , =
- (b) line B  
Gradient,  $m$ , =
2. (a) Where does line A cross the  $y$ -axis?  
 $c$  =
- (b) Where does line B cross the  $y$ -axis?  
 $c$  =
3. State the equation of
- (a) line A:
- (b) line B:





**OS 14.8***Equations and Points*

Determine the equation of the straight line that passes through the points with coordinates  $(2, 9)$  and  $(3, 12)$ .



Determine the equation of the straight line that passes through the points with coordinates  $(2, 4)$  and  $(6, 6)$ .

