

Name: \_\_\_\_\_

Exam Style Questions

# Gradient



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

## Guidance

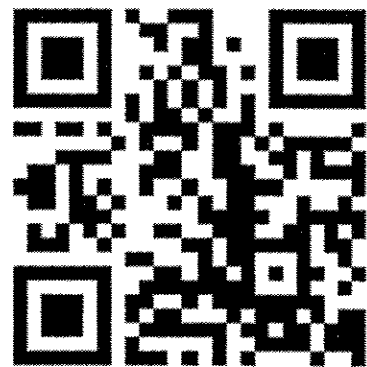
1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

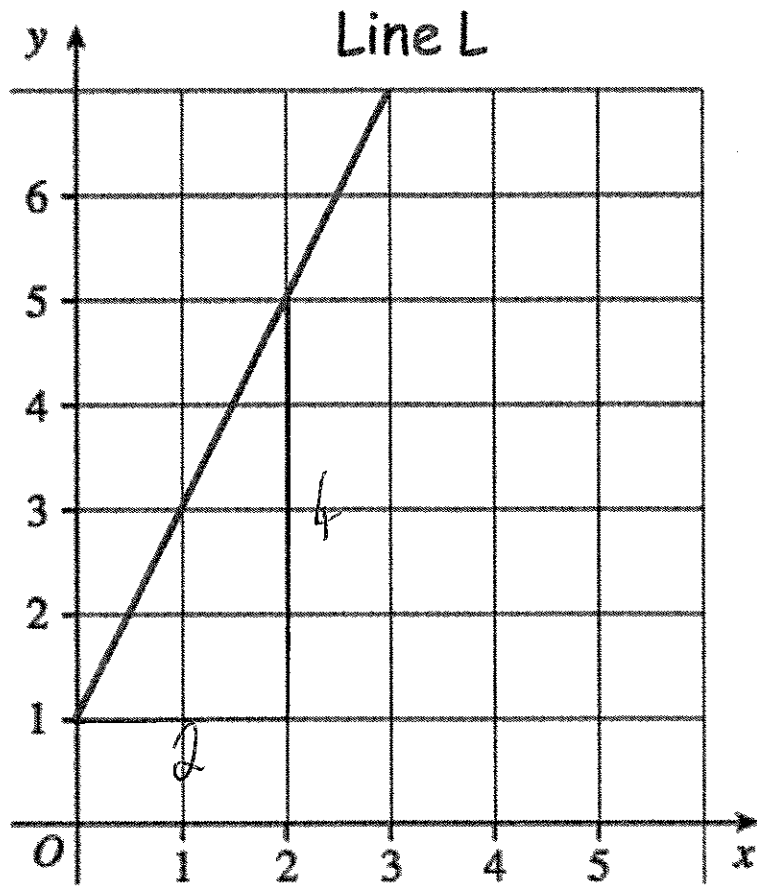
## Secondary

Video 189

Video 190



1.



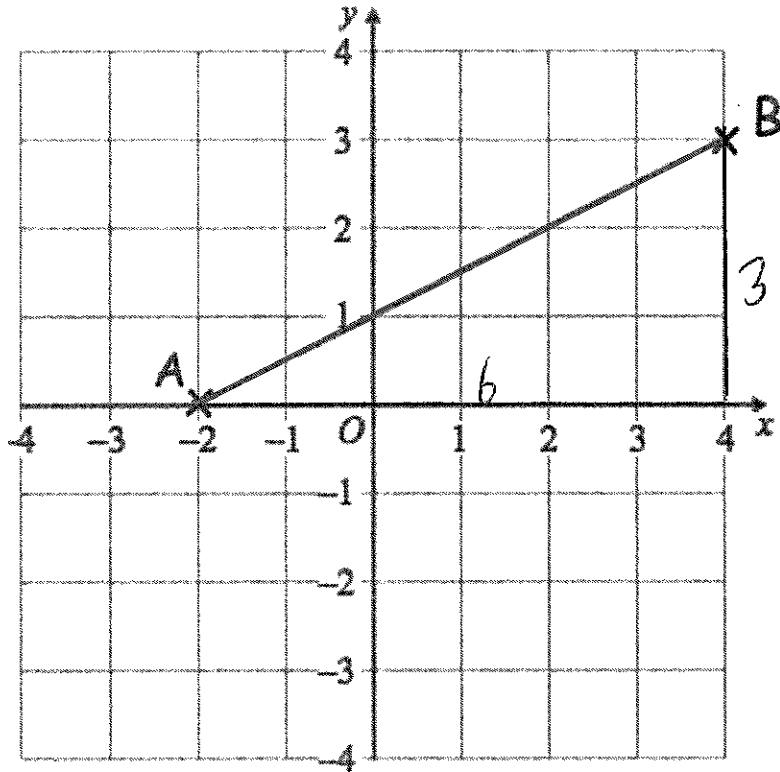
Line L is drawn on the grid.

Work out the gradient of Line L.

$$\frac{\text{rise}}{\text{run}} = \frac{4}{2} = 2$$

.....  
2  
(2)

2.



AB is drawn on the grid.

Work out the gradient of AB.

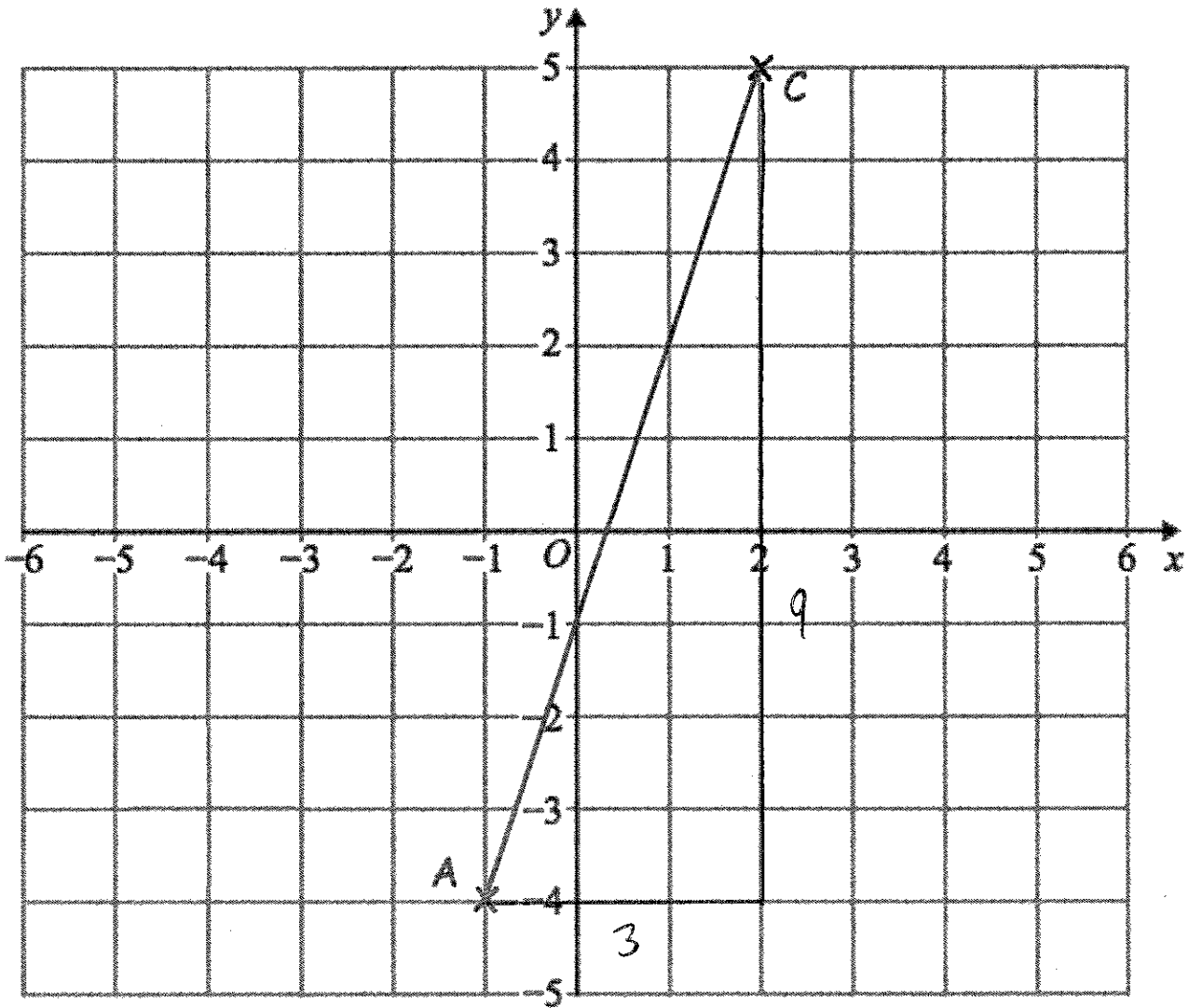
$$\frac{\text{rise}}{\text{run}} = \frac{3}{6} = \frac{1}{2} \text{ or } 0.5$$

$$\frac{1}{2}$$

---

(2)

3.



A is the point with coordinates  $(-1, -4)$

C is the point with coordinates  $(2, 5)$

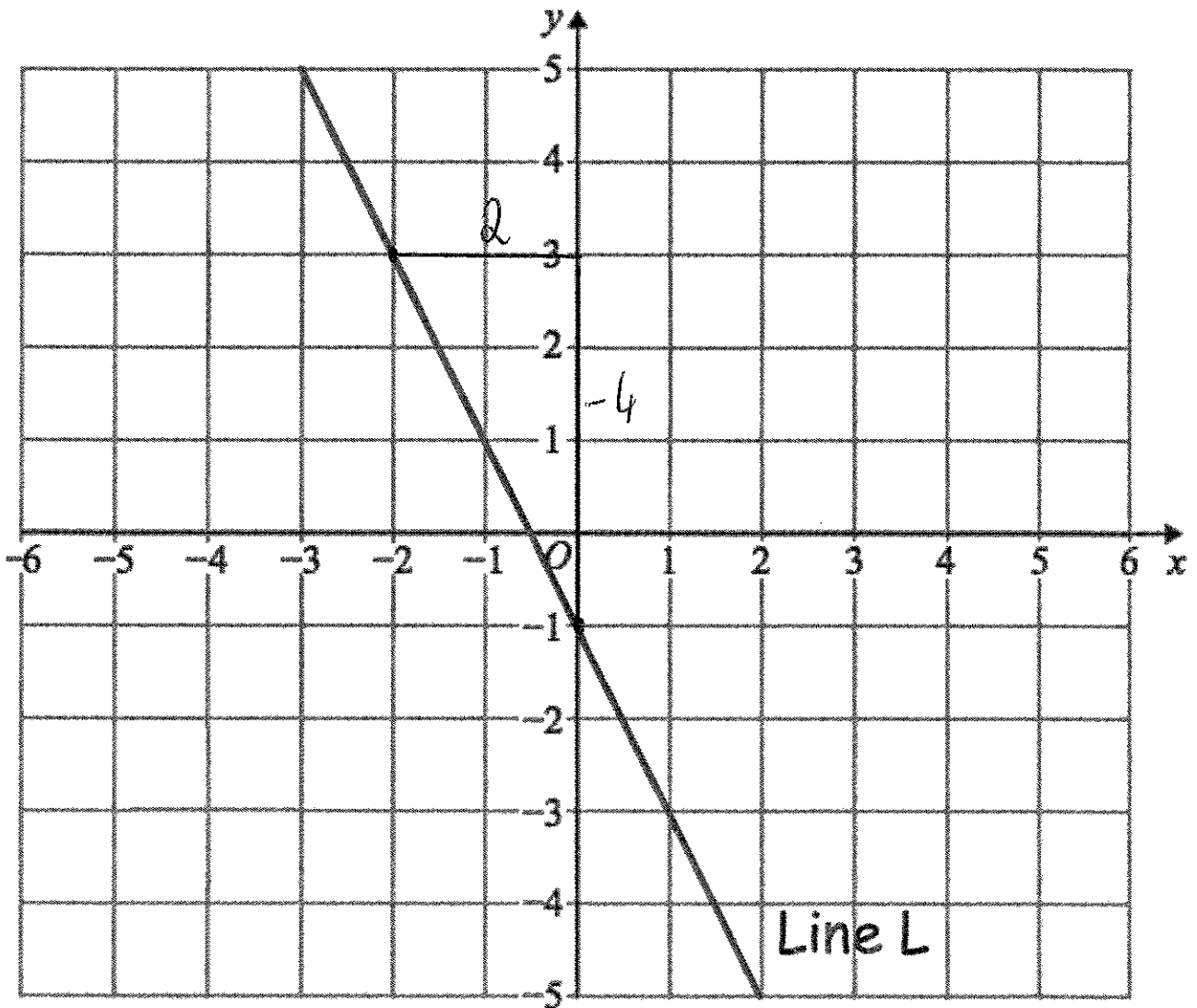
Find the gradient of the line AC.

$$\frac{\text{rise}}{\text{run}} = \frac{9}{3} = 3$$

3

.....  
(2)

4.



Line L is drawn on the grid.

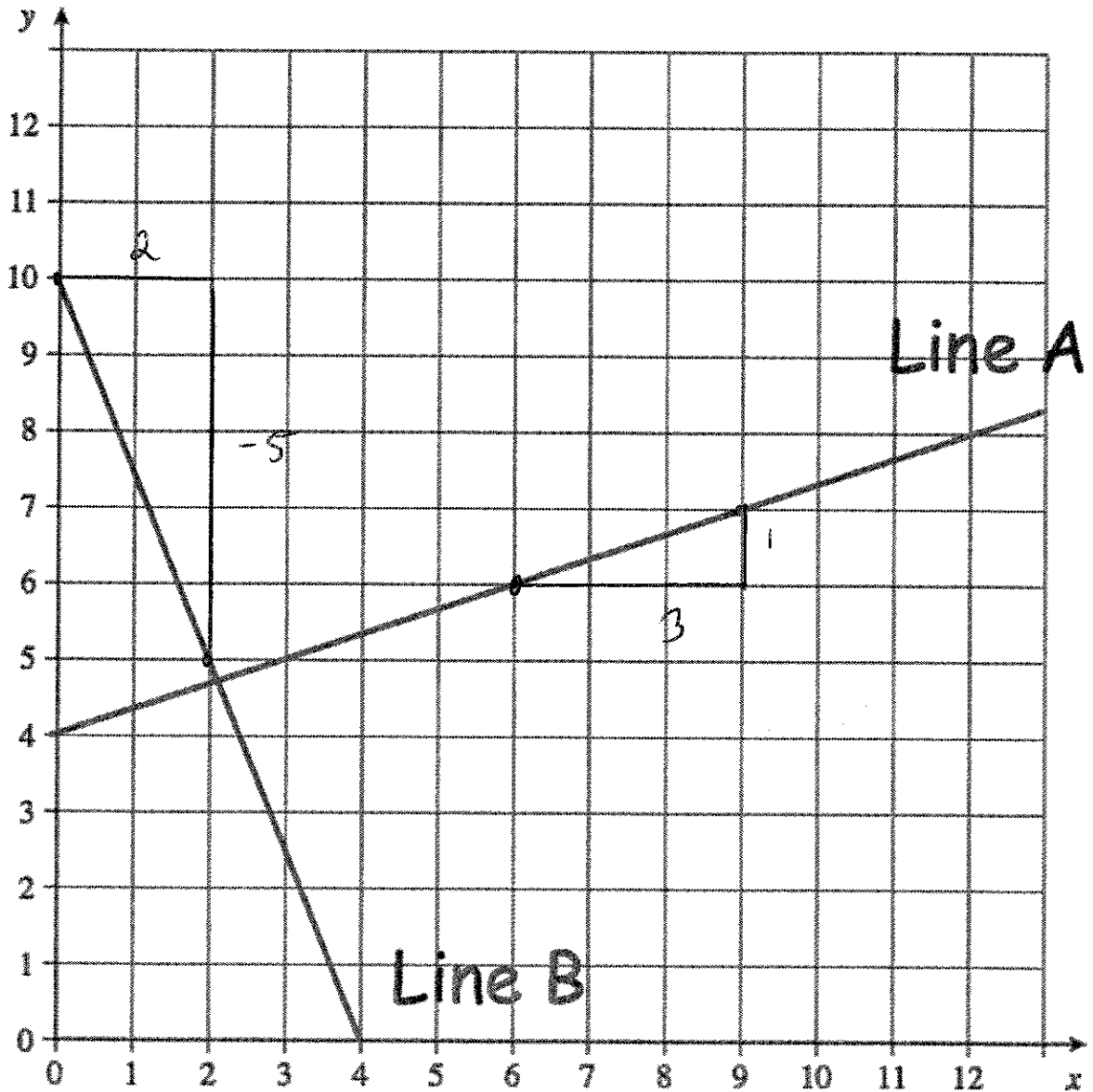
Work out the gradient of Line L.

$$\frac{\text{rise}}{\text{run}} = \frac{-4}{2} = -2$$

-2

.....  
(2)

5.



- (a) Line A is drawn on the grid.  
Work out the gradient of Line A.

$$\frac{\text{rise}}{\text{run}} = \frac{1}{3}$$

$$\frac{1}{3}$$

.....  
(2)

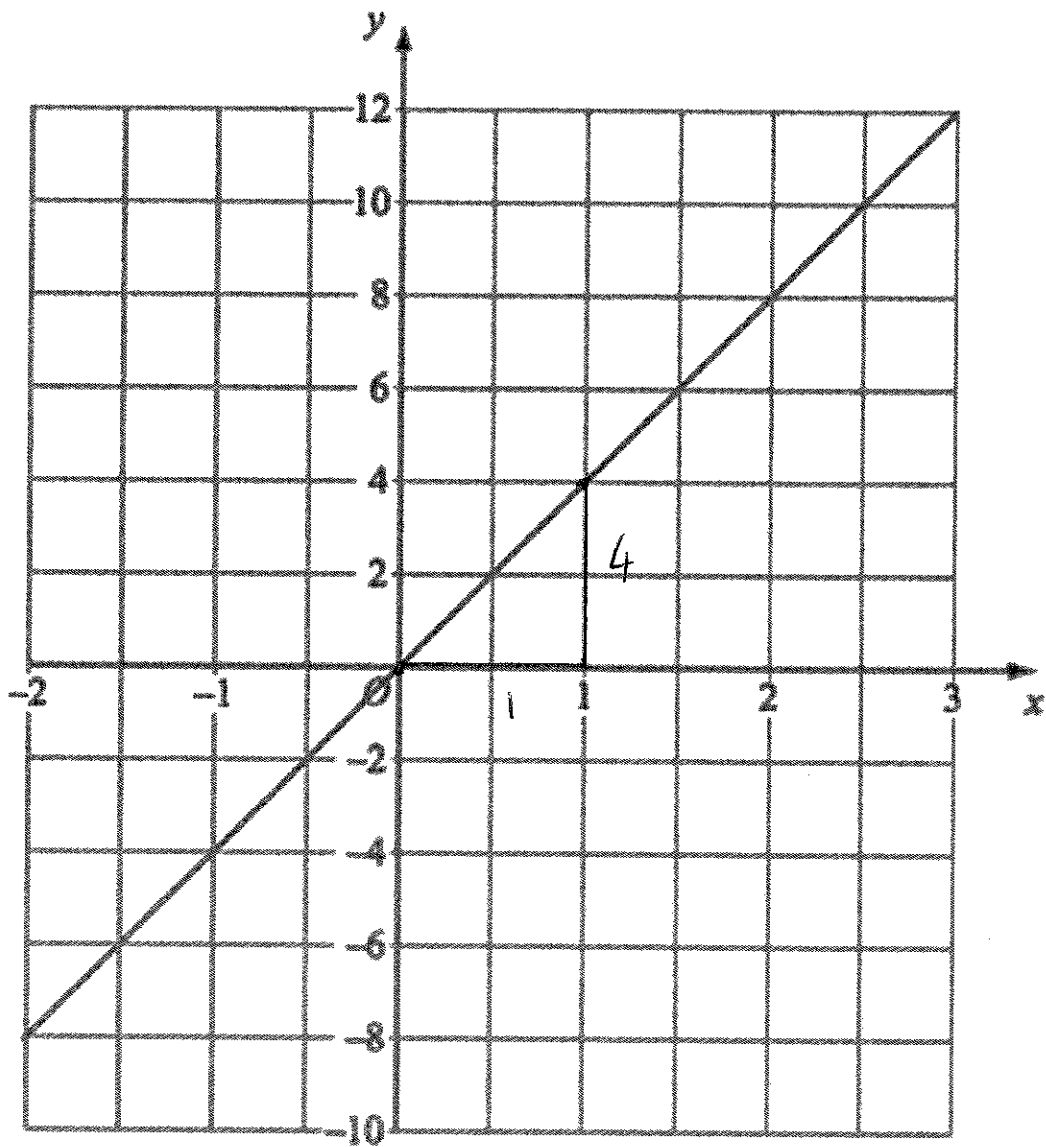
- (b) Line B is drawn on the grid.  
Work out the gradient of Line B.

$$\frac{\text{rise}}{\text{run}} = \frac{-5}{2}$$

$$-2.5$$

.....  
(2)

6.

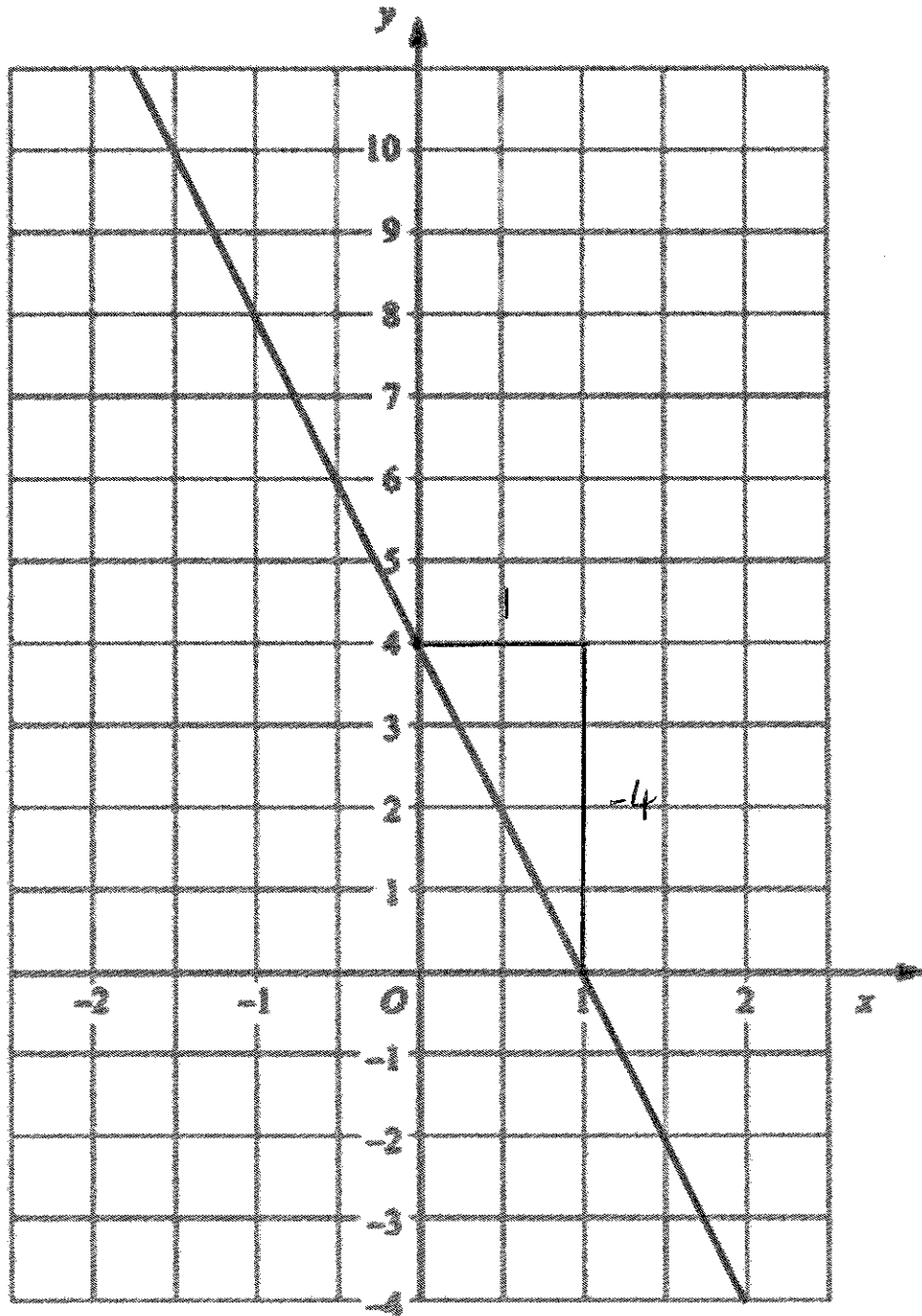


Work out the gradient of the line shown.

$$\frac{\text{rise}}{\text{run}} = \frac{4}{1} = 4$$

4  
(2)

7.



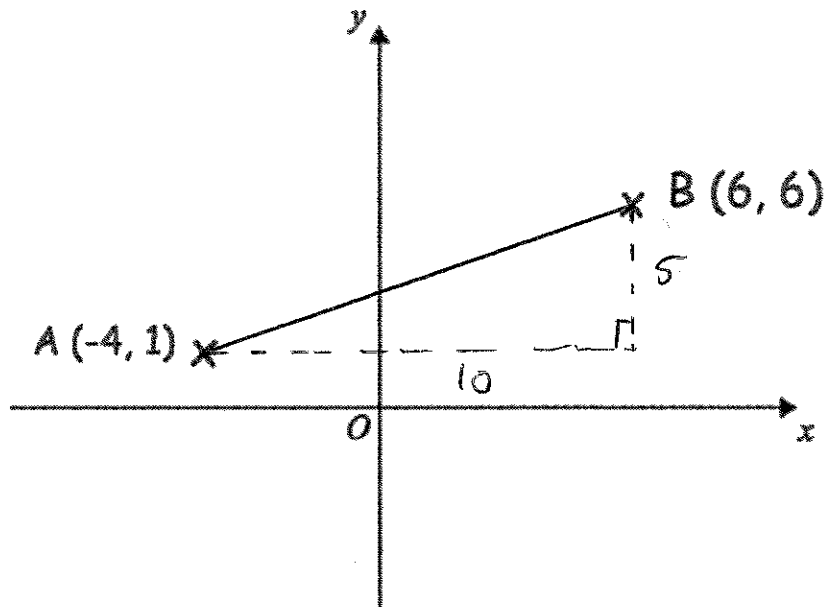
Work out the gradient of the line shown.

$$\frac{\text{rise}}{\text{run}} = \frac{-4}{1}$$

$$\frac{-4}{1} \dots \dots \dots (2)$$



8.



A is the point (-4, 1)

B is the point (6, 6)

Find the gradient of AB.

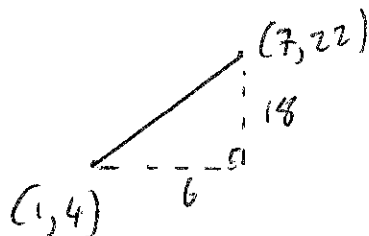
$$\frac{\text{rise}}{\text{run}} = \frac{5}{10}$$

$$\frac{1}{2}$$

(2)

9. A is the point with coordinates (1, 4).  
B is the point with coordinates (7, 22).

Find the gradient of AB.

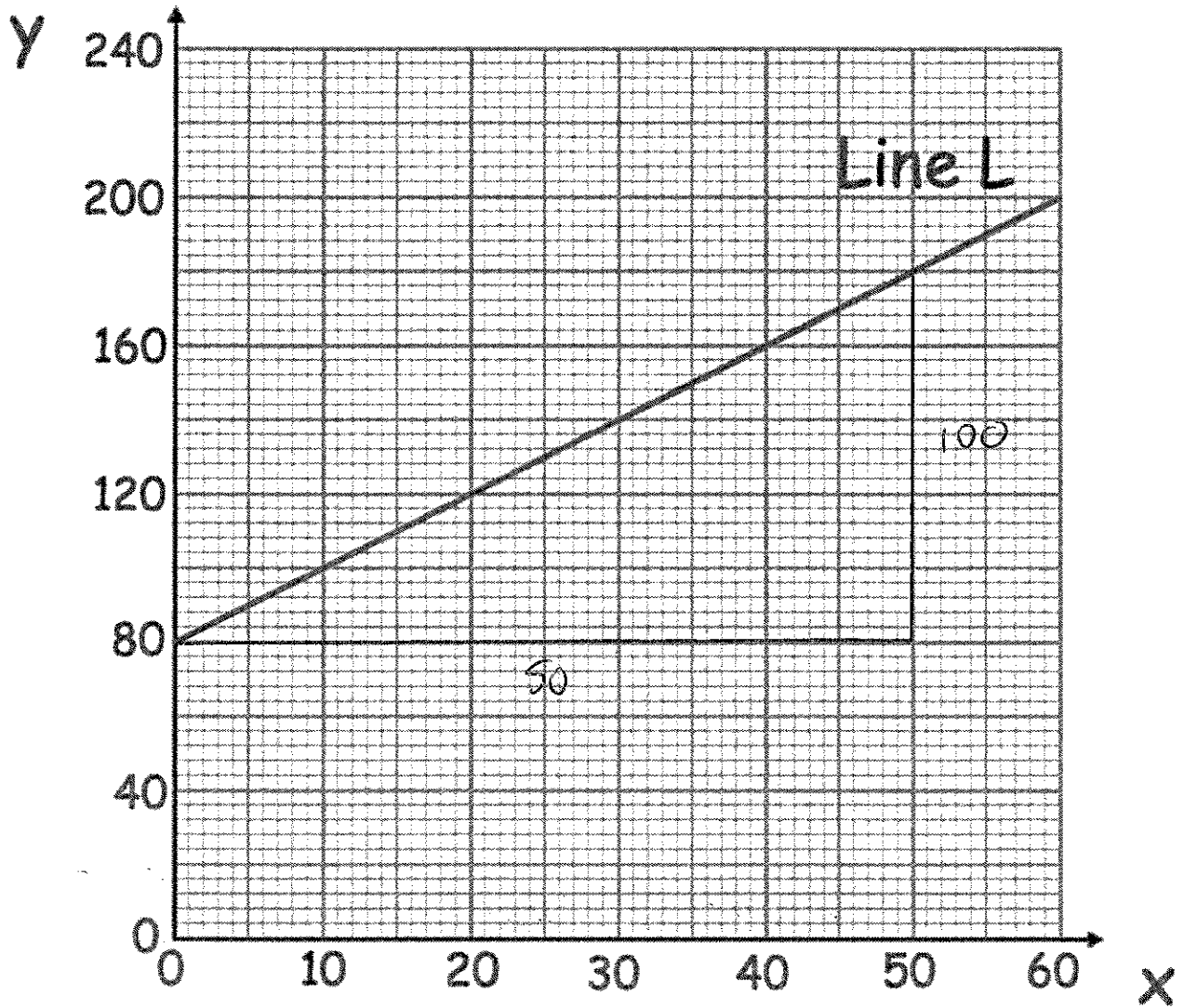


$$\frac{\text{rise}}{\text{run}} = \frac{18}{6}$$

$$3$$

(2)

10.



Line L is drawn on the grid.

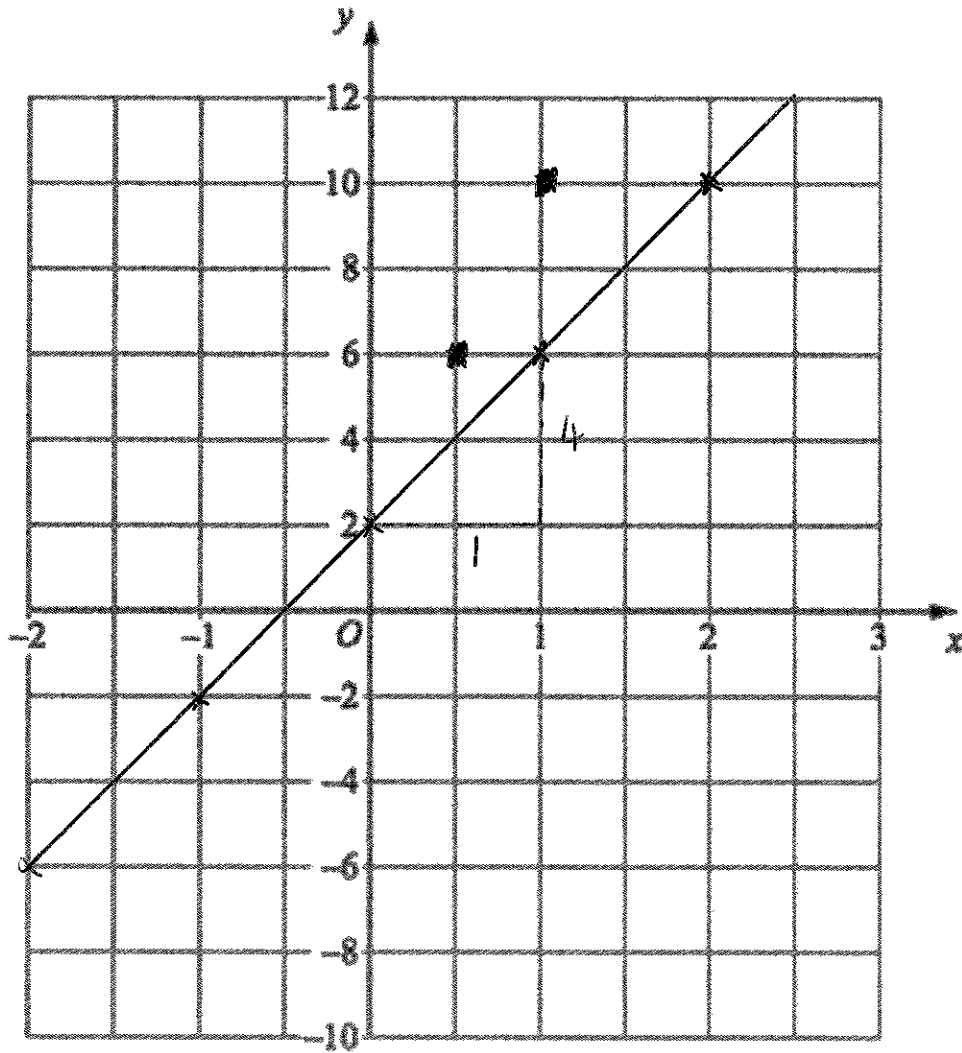
Work out the gradient of Line L.

$$\frac{\text{rise}}{\text{run}} = \frac{100}{50} = 2$$

2

(2)

11.



(a) Draw the graph  $y = 4x + 2$  on the grid above.

$x$	0	1	2	3
$y$	2	6	10	14

(2)

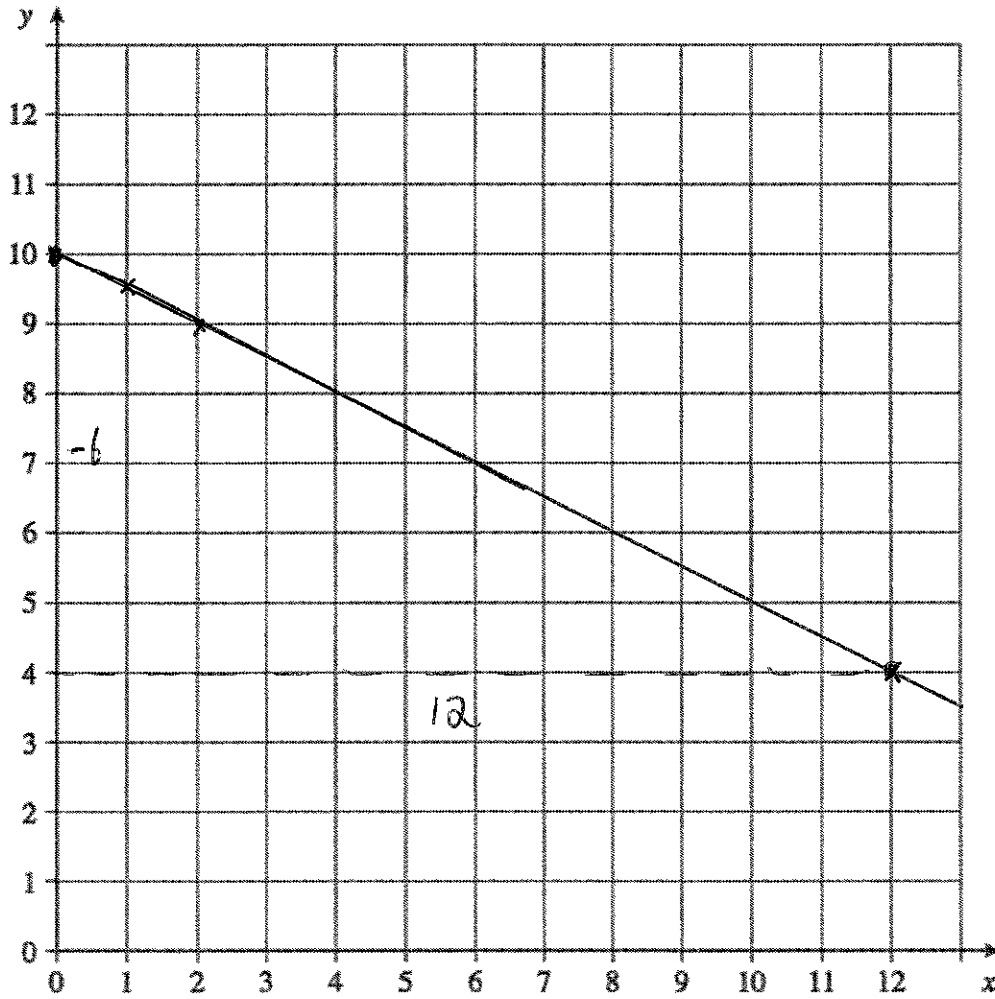
(b) Work out the gradient of the line  $y = 4x + 2$

$$\frac{\text{rise}}{\text{run}} = \frac{4}{1} = 4$$

4

(2)

12.



(a) Draw the graph  $2y + x = 20$  on the grid above.

$x$	0	1	2
$y$	10	9.5	9

(2)

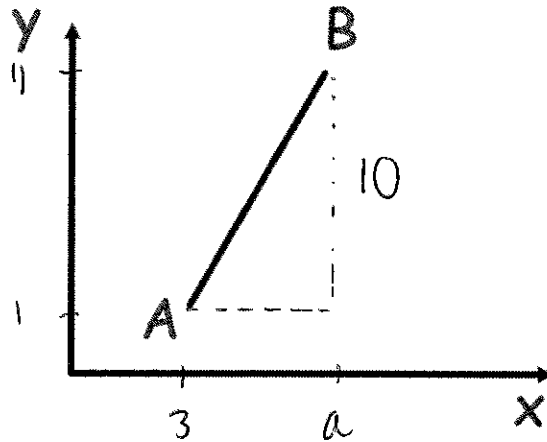
(b) Work out the gradient of the line  $2y + x = 20$

$$\frac{\text{rise}}{\text{run}} = \frac{-6}{12}$$

$$\frac{-1}{2}$$

(2)

13.



A is the point  $(x_1, y_1)$  (3, 1).

B is the point  $(x_2, y_2)$  (a, 11).

The gradient of AB is  $5/2$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{10}{a - 3} = 2.5$$

Work out the value of a.

$$\begin{aligned} 10 &= 2.5(a - 3) \\ 10 &= 2.5a - 7.5 \\ 17.5 &= 2.5a \\ a &= 7 \end{aligned}$$

.....7.....  
(3)

14. Work out the gradient of the line passing through the points  $(x_1, y_1)$  (3, 2) and  $(x_2, y_2)$  (7, 20).

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{20 - 2}{7 - 3} = \frac{18}{4} = 4.5$$

.....4.5.....  
(2)

15. The line passing through  $(x_1, y_1)$  and  $(x_2, y_2)$  has gradient  $\frac{3}{4}$ .

Work out the value of  $a$ .

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - a}{8 - 4} = \frac{3}{4}$$

$$\frac{1 - a}{4} = \frac{3}{4}$$

$$1 - a = 3$$

$$a = -2$$

$$\frac{-2}{\dots\dots\dots} \quad (3)$$