# Straight Line Graphs

REVISE THIS TOPIC

**1** On the grid, draw the graph of $y = 2x + 1$ for values of $x$ from to -3 to 3

**[3 marks]**

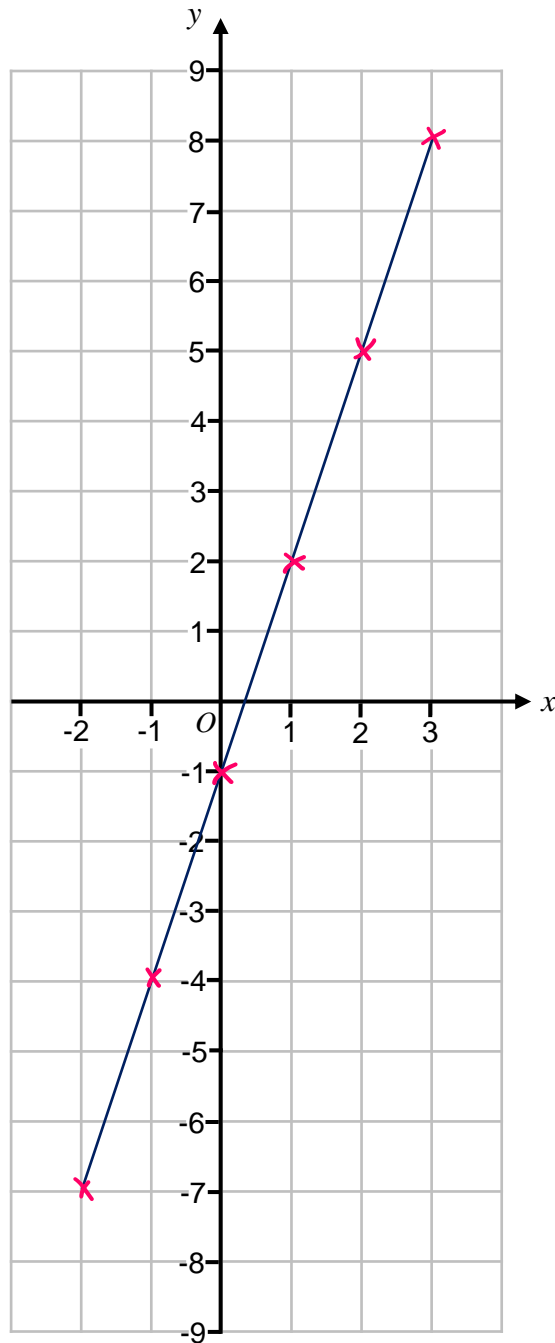| $x$ | -3 | -2 | -1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| $y$ | -5 | -3 | -1 | 1 | 3 | 5 | 7 |



3
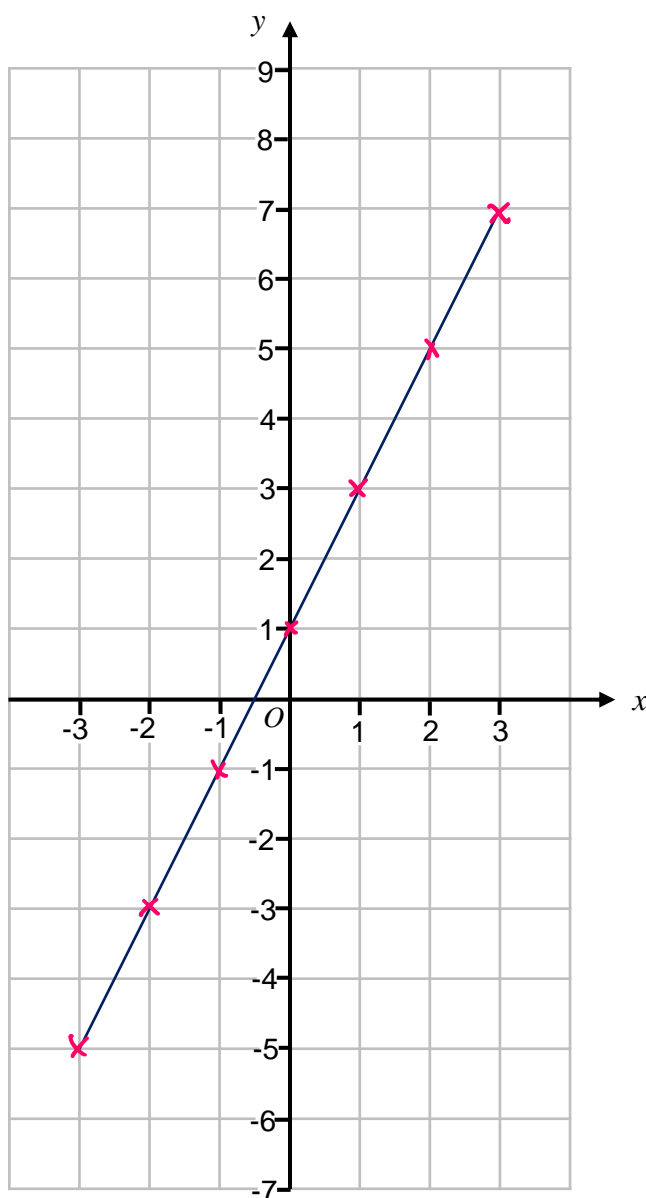
**2**    On the grid, draw the graph of   $y = 3x - 1$   for values of $x$ from to -2 to 3

**[3 marks]**

| $x$ | -2 | -1 | 0 | 1 | 2 | 3 |
|-----|-----|-----|-----|-----|-----|-----|
| $y$ | -7 | -4 | -1 | 2 | 5 | 8 |

3    On the grid, draw the graph of    $y = 4 - 2x$   for values of $x$ from to -2 to 3

**[3 marks]**

| $x$ | -2 | -1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| $y$ | 8 | 6 | 4 | 2 | 0 | -2 |

**Turn over ▶**

6
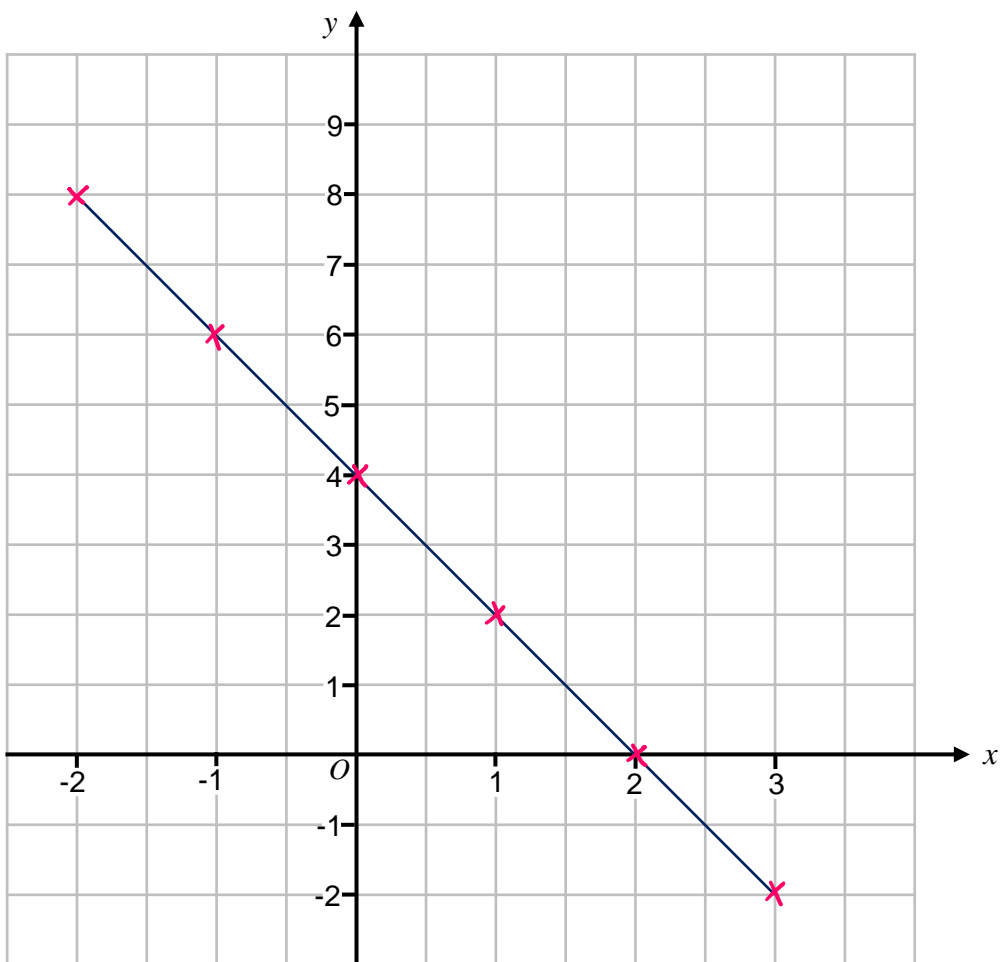
**4**    On the grid, draw the graph of    $y = -3x - 5$    for values of $x$ from to -3 to 2

**[3 marks]**

| $x$ | -3 | -2 | -1 | 0 | 1 | 2 |
|---|---|---|---|---|---|---|
| $y$ | 4 | 1 | -2 | -5 | -8 | -11 |
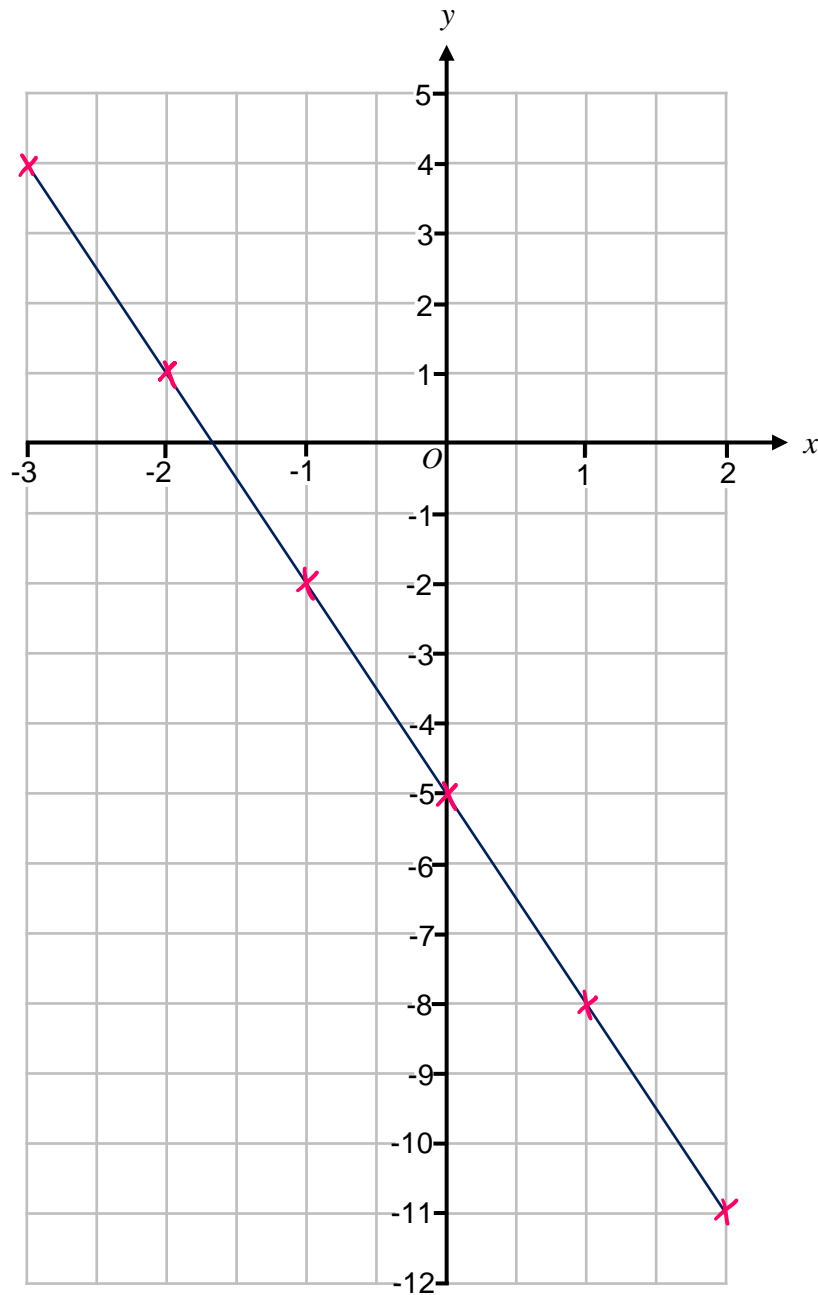
**5** On the grid, draw the graph of $x + y = 6$ for values of $x$ from to -2 to 6

**[3 marks]**

| $x$ | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| $y$ | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
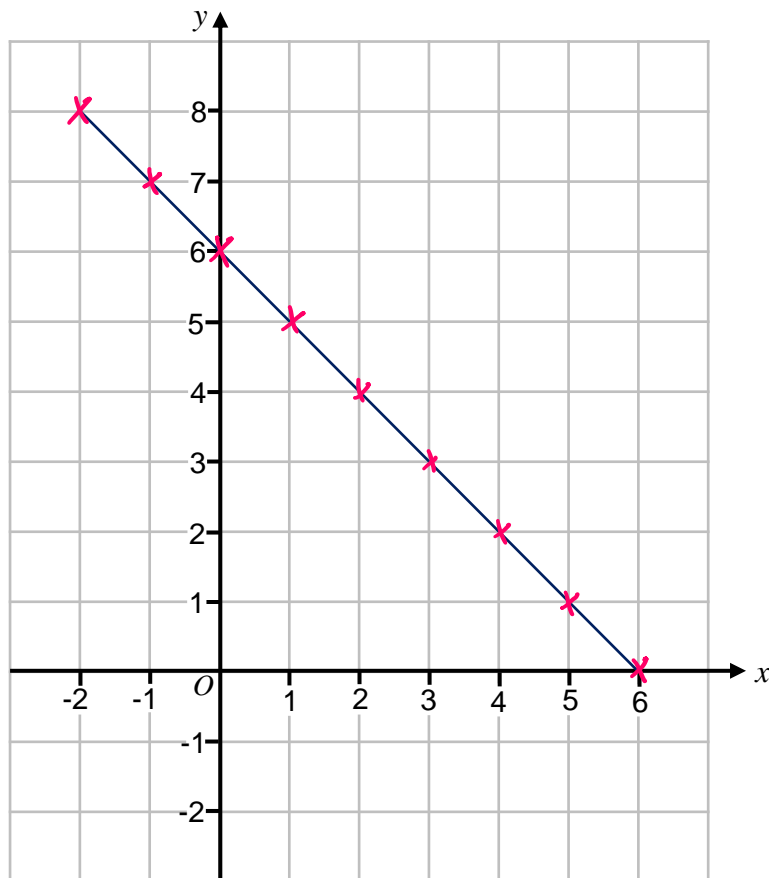
**6**    On the grid, draw the graph of    $y = \frac{1}{2}x + 5$    for values of $x$ from to -4 to 2

**[3 marks]**

| $x$ | -4 | -3 | -2 | -1 | 0 | 1 | 2 |
|---|---|---|---|---|---|---|---|
| $y$ | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 |
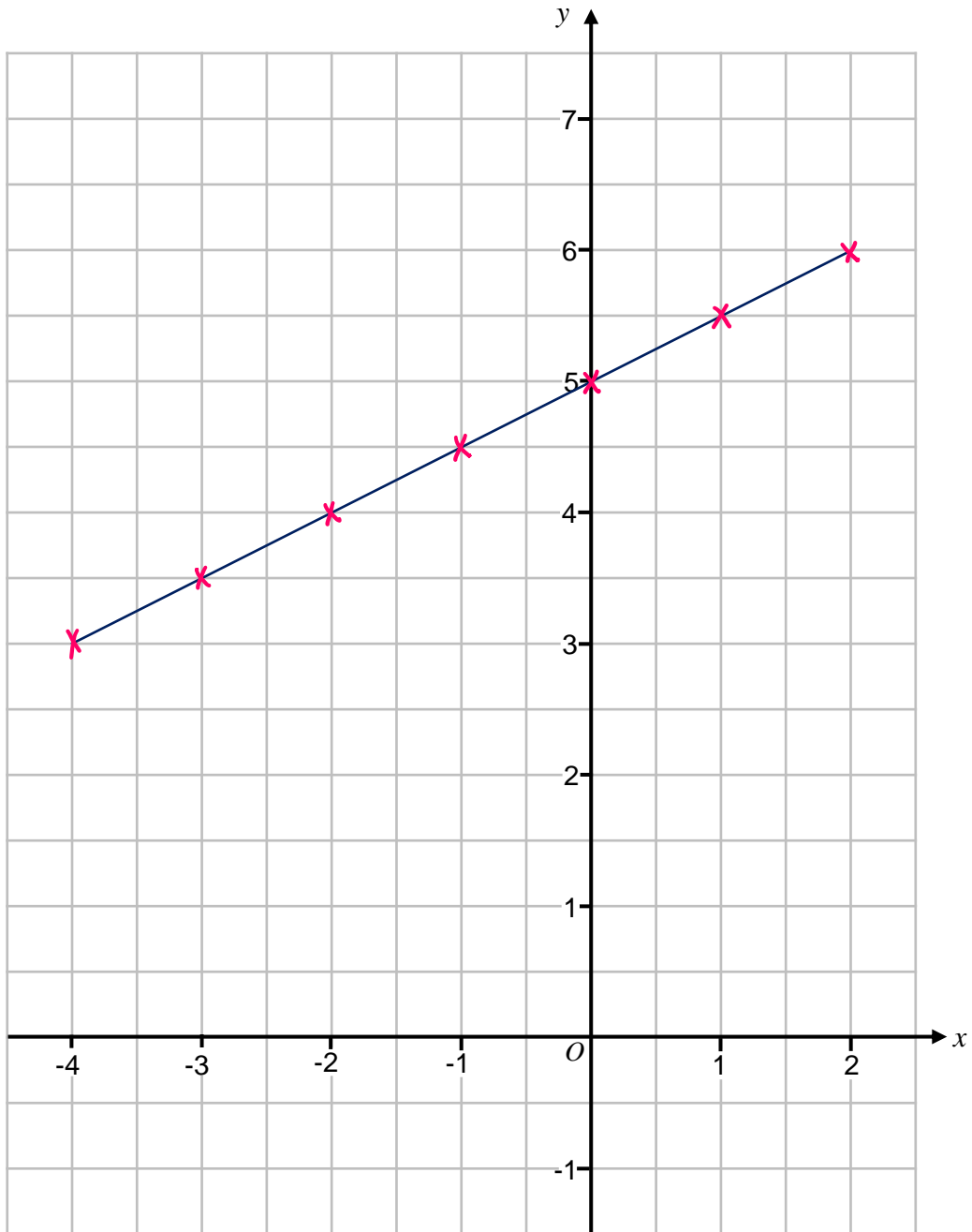
**7**    On the grid, draw the graph of    $3x + 4y = 12$    for values of $x$ from to -2 to 6

**[3 marks]**

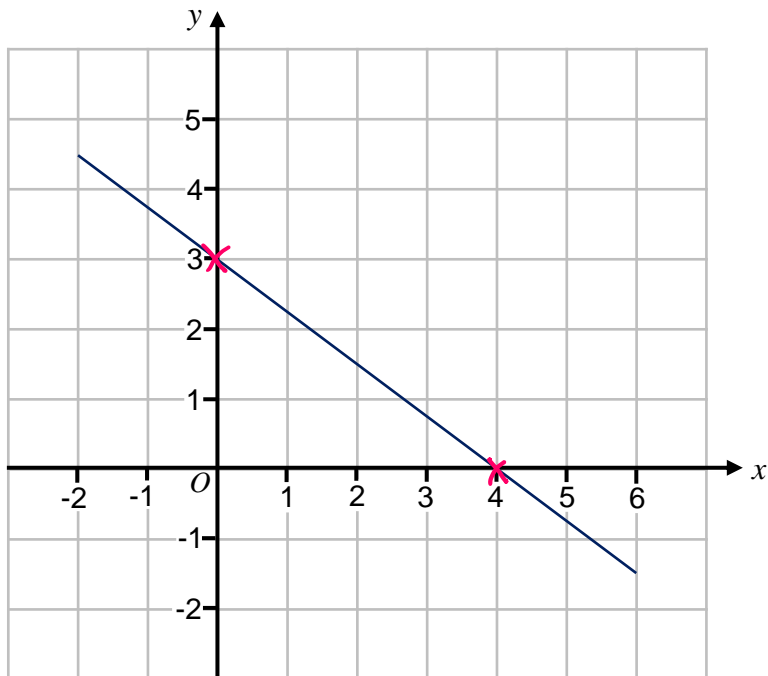$3x = 12$
$x = 4$

$(4, 0)$

$4y = 12$
$y = 3$
$(0, 3)$



**8**    On the grid, draw the graph of    $4x + 2y = 8$    for values of $x$ from to 0 to 6
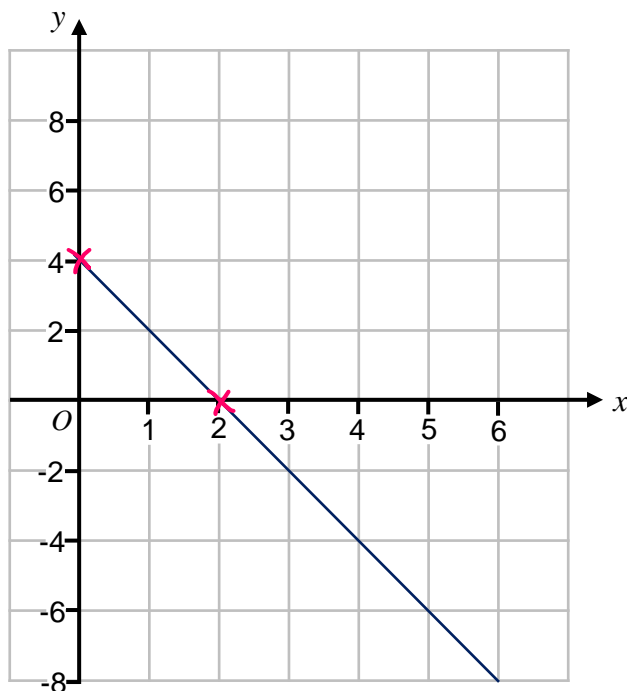
**[3 marks]**

$4x = 8$
$x = 2$

$(2, 0)$

$2y = 8$
$y = 4$
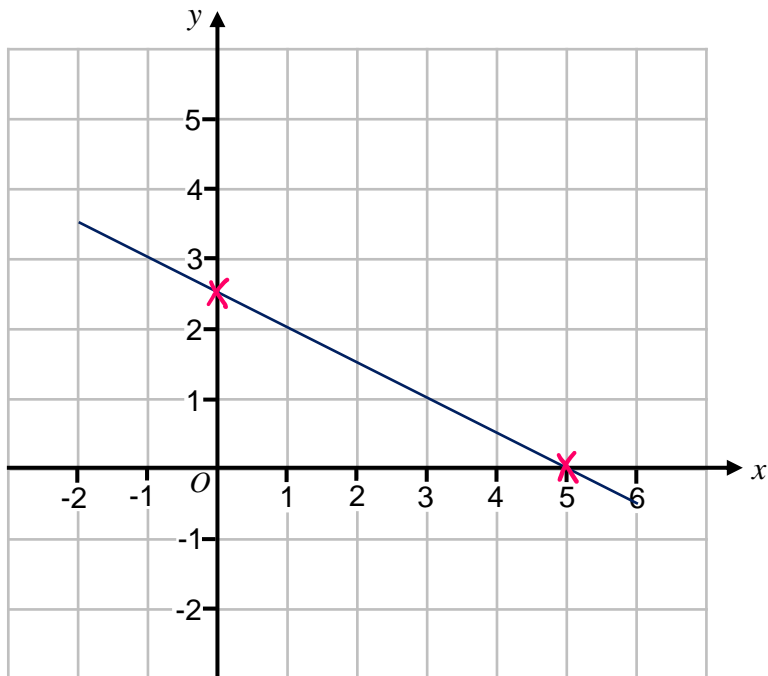$(0, 4)$



9

**Turn over ▶**

**9**    On the grid, draw the graph of    $x + 2y = 5$   for values of $x$ from to -2 to 6
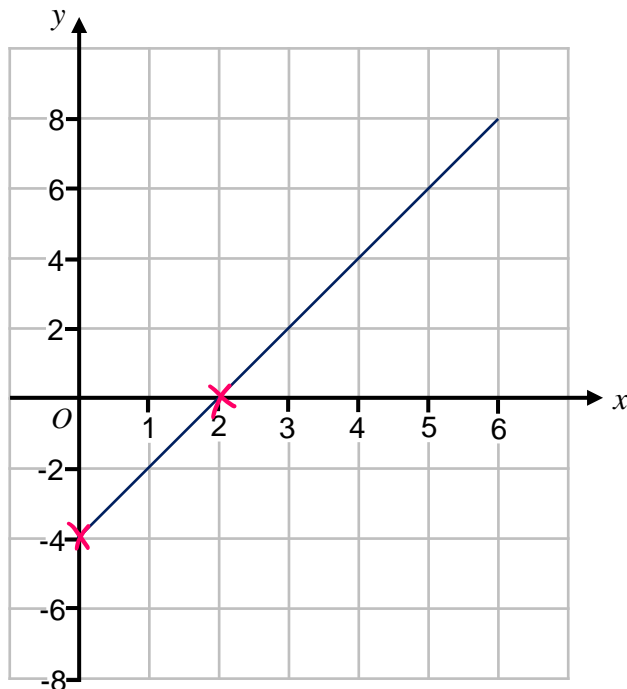
**[3 marks]**

$x = 5$

$(5, 0)$

$2y = 5$
$y = 2.5$

$(0, 2.5)$



**10**    On the grid, draw the graph of    $2x - y = 4$   for values of $x$ from to 0 to 6

**[3 marks]**

$2x = 4$
$x = 2$

$(2, 0)$

$-y = 4$
$y = -4$

$(0, -4)$

**11** The graph of $y = 2x - 2$ for $x$ values from -1 to 4 is shown on the grid.

**11 (a)** On the grid, draw the graph of $y = 4 - x$ for $x$ values from -1 to 4

**[3 marks]**

| $x$ | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| $y$ | 5 | 4 | 3 | 2 | 1 | 0 |

**11 (b)** Use your graph to solve $4 - x = 2x - 2$

**[1 mark]**

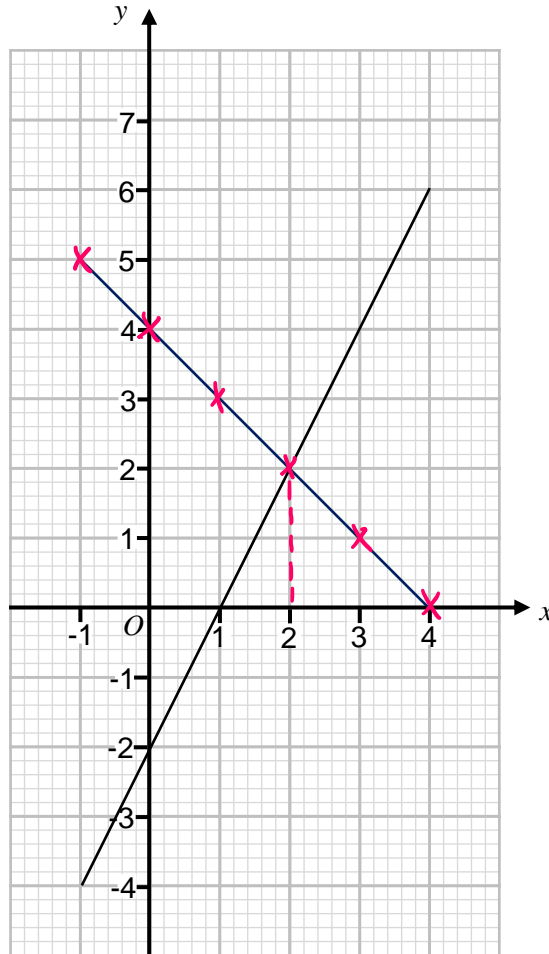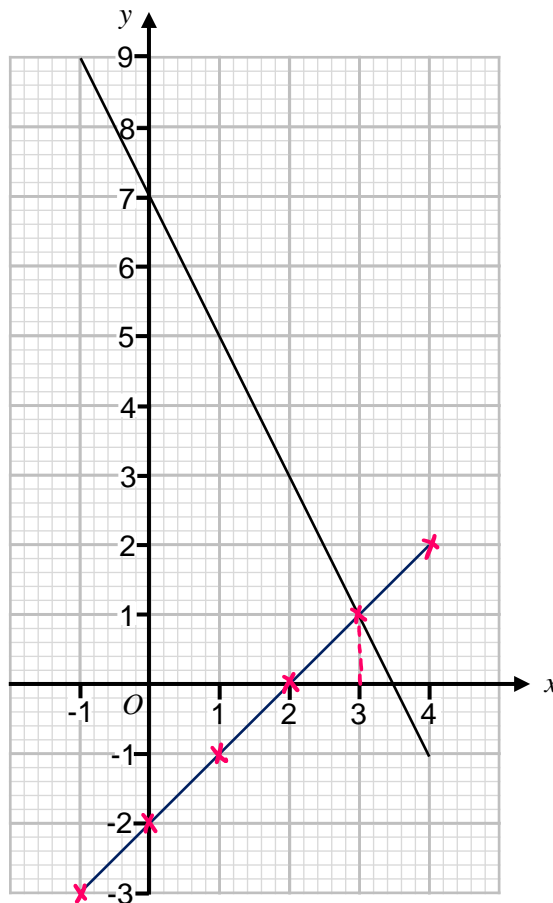$x = \underline{\qquad 2 \qquad}$

**12**  The graph of  $y = 7 - 2x$  for $x$ values from -1 to 4   is shown on the grid.

**12 (a)**  On the grid, draw the graph of   $y = x - 2$   for $x$ values from -1 to 4

**[3 marks]**

| $x$ | -1 | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| $y$ | -3 | -2 | -1 | 0 | 1 | 2 |



**12 (b)**  Use your graph to solve   $x - 2 = 7 - 2x$

**[1 mark]**

$x =$ _____3_____
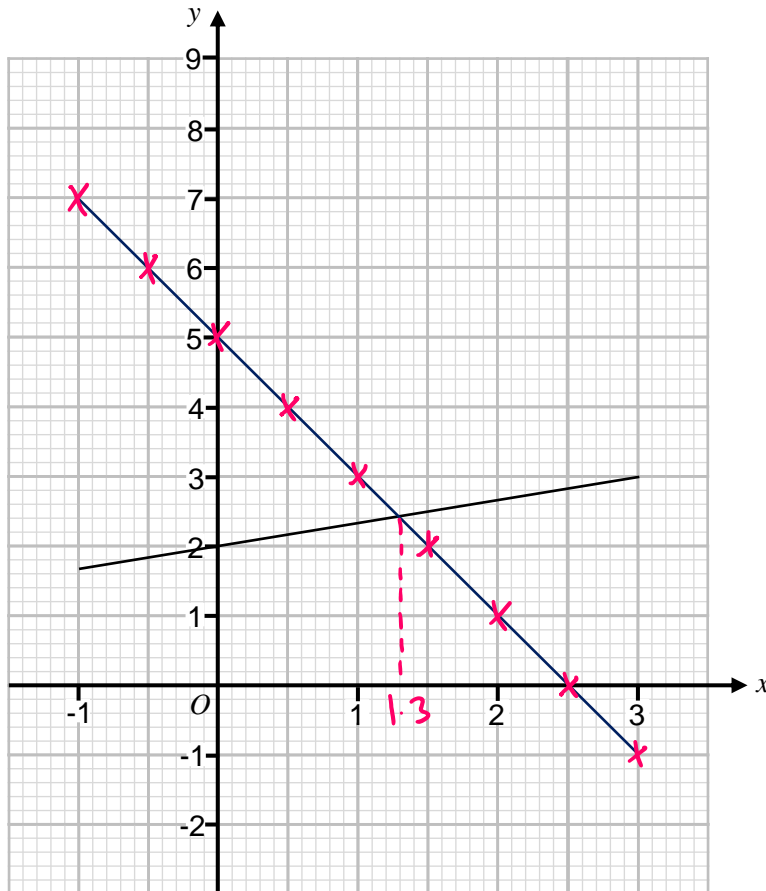
**13**    The graph of    $y = \frac{1}{3}x + 2$    for $x$ values from -1 to 3    is shown on the grid.

**13 (a)**    On the grid, draw the graph of    $y = 5 - 2x$    for $x$ values from -1 to 3

**[3 marks]**

| $x$ | -1 | 0 | 1 | 2 | 3 |
|-----|----|----|----|----|----|
| $y$ | 7 | 5 | 3 | 1 | -1 |



**13 (b)**    Use your graph to find an approximate solution to    $\frac{1}{3}x + 2 = 5 - 2x$    **[1 mark]**

Give your answer as a decimal.

$x =$ _____ 1·3

8