UNIT 14   *Straight Line Graphs*   **Extra Exercises 14.1**

1.   The coordinates of the corners of a shape are listed below:

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

    (a)   Draw the shape.

    (b)   What is the name of the shape?

2.   The coordinates of a triangle are listed below:

        (– 5, – 2),   (– 5, 4),   (3, 1)

    (a)   Draw the triangle.

    (b)   What type of triangle have you drawn?

3.   The coordinates of 3 corners of a square are listed below:

        (– 3, – 3),   (4, – 3),   (4, 4)

    Draw the square and write down the coordinates of the other corner.

4.   The coordinates of 3 corners of a rectangle are listed below:

        (– 3 – 2,),   (– 4, 1),   (3, 0)

    Draw the rectangle and write down the coordinates of the other corner.

5.   Plot the following points in order, joining them as you plot them:

        (– 1, 7),   (– 5, 7),   (– 7, 4),   (– 3, 2),   (1, 4),   (– 1, 7)

    What is the name of the shape you have drawn?

UNIT 14   *Straight Line Graphs*   **Extra Exercises 14.2**

1. (a) Plot the points with coordinates:

     (0, 7), (3, 4), (6, 1), (7, 0)

   (b) Draw a straight line through these points.

   (c) What is the relationship between the *x*- and *y*-coordinates?

2. (a) Plot the points with coordinates:

     (1, 2), (2, 4), (3, 6), (4, 8)

   (b) Draw a straight line through these points.

   (c) What is the relationship between the *x*- and *y*-coordinates?

3. (a) Draw a straight line through the points with coordinates

     (1, 0), (4, 3), (5, 4)

   (b) Write down the coordinates of 3 other points that lie on this line.

   (c) What is the relationship between the *x*- and *y*-coordinates?

4. (a) Draw a straight line that passes through the points with coordinates
       (1, 9), (6, 4), (7, 3).

   (b) Write down the coordinates of 3 other points on this line.

   (c) What is the relationship between the *x*- and *y*-coordinates?

UNIT 14 *Straight Line Graphs* **Extra Exercises 14.3**

1. Determine the gradient of each of the following lines:
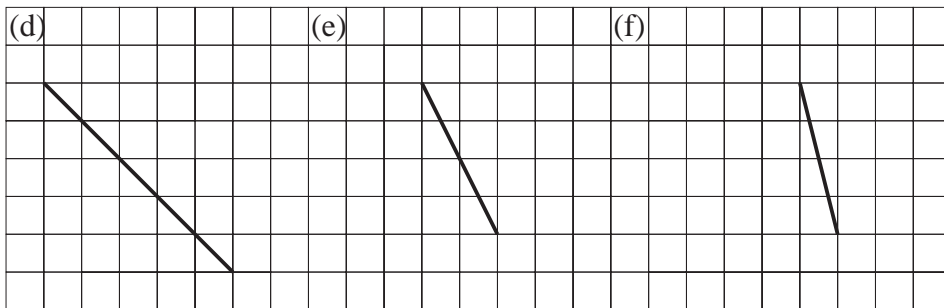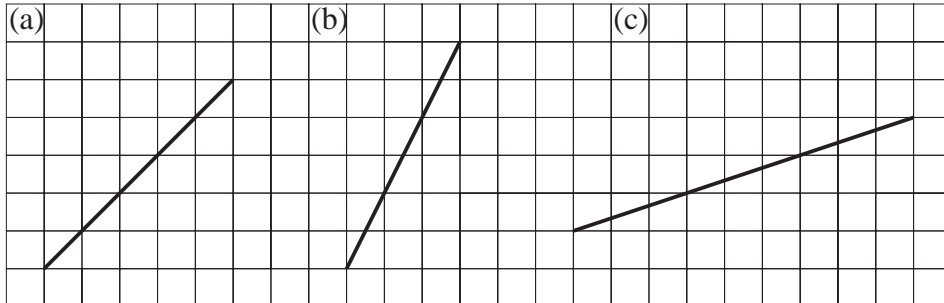
2. (a) Copy and complete the following table for $y = x + 5$.

x	-3	-2	-1	0	1	2	3
y							

(b) Draw the line with equation $y = x + 5$.

3. (a) Copy and complete the following table for $y = 3x - 4$.

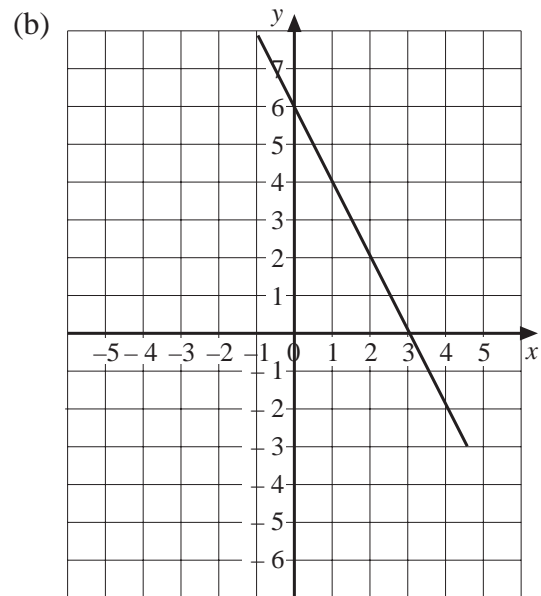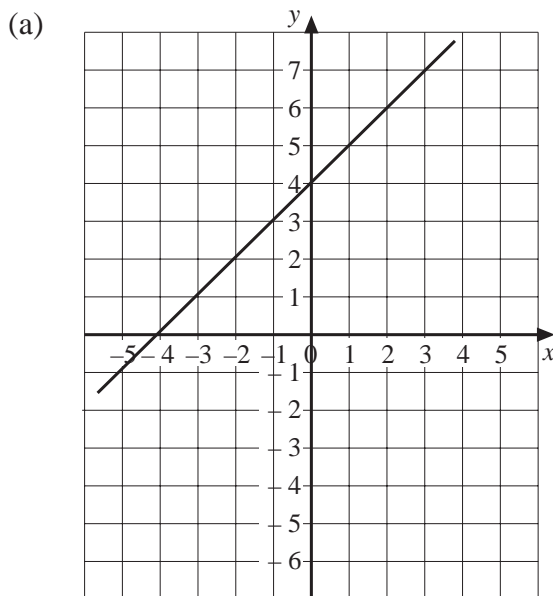| x	-3	-2	-1	0	1	2	3
y							

(b) Draw the line with equation $y = 3x - 4$.

UNIT 14   *Straight Line Graphs*   **Extra Exercises 14.4**

1.   The points (0, 1), (3, 7) and (4, 9) all lie on a straight line.

   (a)   Draw this straight line.

   (b)   What is the *gradient* of this line?

   (c)   What is the *intercept* of this line?

   (d)   Write down the *equation* of this line.

2.   Write down the equation of each of the lines shown below:

   (a)

   (b)

3.   (a)   Draw a line that passes through the points with coordinates below:

   (1, 7),   (3, 5),   (5, 3)

   (b)   What is the *gradient* of this line?

   (c)   What is the *intercept* of this line?

   (d)   Write down the *equation* of the line.

4.   What is the *gradient* and the *intercept* of the lines with the following equations:

   (a) $y = 3x - 7$ (b) $y = 7x + 2$

   (c) $y = \dfrac{1}{2}x + 1$ (d) $y = -2x + 1$

UNIT 14   *Straight Line Graphs*   **Extra Exercises 14.5**

1.   Determine the equation of each of the straight lines that passes through the point with coordinates (0, 0) and:

(a)   (2, 8)   (b)   (4, 2)   (c)   (2, 10)

2.   Determine the equation of each of the straight lines that pass through the two points:

(a)   (1, 1) and (2, 3)   (b)   (– 2, 2) and (3, 7)

(c)   (0, 3) and (6, 5)   (d)   (1, 6) and (4, 0)

(e)   (0, 3) and (3, – 3)   (f)   (0, – 2) and (4, – 4)

Extra Exercises 14.1   Answers

1.   (b)   Parallelogram

2.   (b)   Isosceles triangle

3.   (− 3, 4)

4.   (2, 3)

5.   Pentagon

Extra Exercises 14.2   Answers

1.   (c) $x + y = 7$ or $y = 7 - x$

2.   (c) $y = 2x$

3.   (b)   e.g. (0, − 1), (2, 1), (3, 2), (6, 5)

      (c) $y = x - 1$

4.   (b)   e.g. (0, 10) (2, 8), (3, 7), (4, 6), (5, 5), (8, 2), (9, 1), (10, 0)

      (c) $x + y = 10$ or $y = 10 - x$

Extra Exercises 14.3   Answers

1.   (a)   1   (b)   2   (c) $\dfrac{1}{3}$

      (d)   − 1   (e)   − 2   (f)   − 4

2.   (a)

x	− 3	− 2	− 1	0	1	2	3
y	2	3	4	5	6	7	8

3.   (a)

x	− 3	− 2	− 1	0	1	2	3
y	− 13	− 10	− 7	− 4	− 1	2	5

Extra Exercises 14.4 Answers

1.   (b)   2   (c)   1   (d) $y = 2x + 1$

2.   (a) $y = x + 4$ (b) $y + 2x = 6$

3.   (b) -1 (c)   8   (d) $y = -x + 8$ or $x + y = 8$

4.   (a)   3 , -7

     (b)   7 ,   2

     (c) $\dfrac{1}{2}$,   1

     (d) -2,   1

Extra Exercises 14.5 Answers

1.   (a) $y = 4x$ (b) $y = \dfrac{1}{2}x$ (c) $y = 5x$

2.   (a) $y = 2x - 1$ (b) $y = x + 4$

     (c) $y = \dfrac{1}{3}x + 3$ (d) $y = -2x + 8$

     (e) $y = -2x + 3$ (f) $y = -\dfrac{1}{2}x - 2$