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?

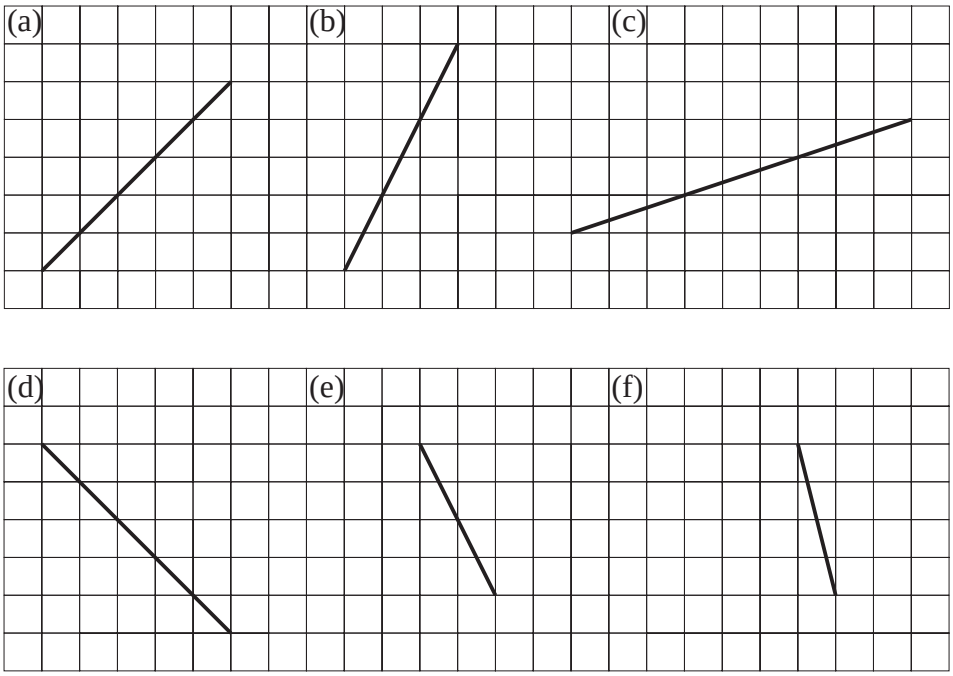
4. (a) Draw a straight line that passes through the points with coordinates (1, 9), (6, 4), (7, 3).

   (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							

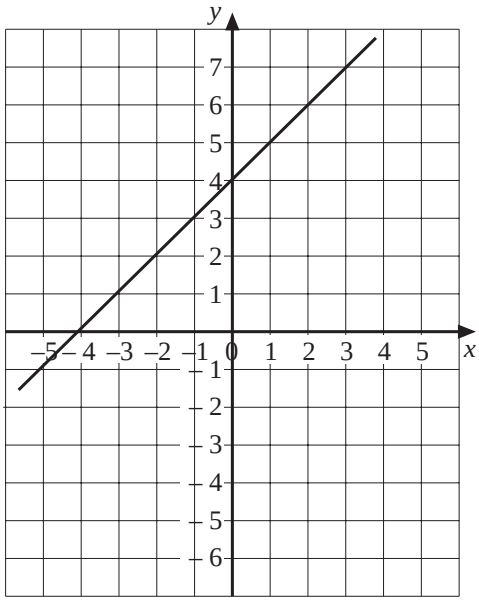
(b) Draw the line with equation $y = 3x - 4$.

UNIT 14 *Straight Line Graphs* Extra Exercises 14.4

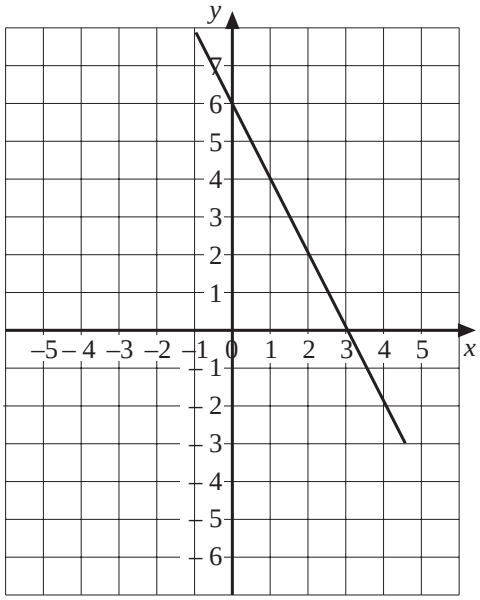
1. The points (0, 1), (3, 7) and (4, 9) all lie on a straight line.
   (a) Draw this straight line.
   (b) What is the *gradient* of this line?
   (c) What is the *intercept* of this line?
   (d) Write down the *equation* of this line.

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) $y = \frac{1}{2}x + 1$ (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) $\frac{1}{3}$

   (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) $\frac{1}{2}$, 1
   (d) -2, 1

Extra Exercises 14.5 Answers

1. (a) $y = 4x$ (b) $y = \frac{1}{2}x$ (c) $y = 5x$
2. (a) $y = 2x - 1$ (b) $y = x + 4$
   (c) $y = \frac{1}{3}x + 3$ (d) $y = -2x + 8$
   (e) $y = -2x + 3$ (f) $y = -\frac{1}{2}x - 2$