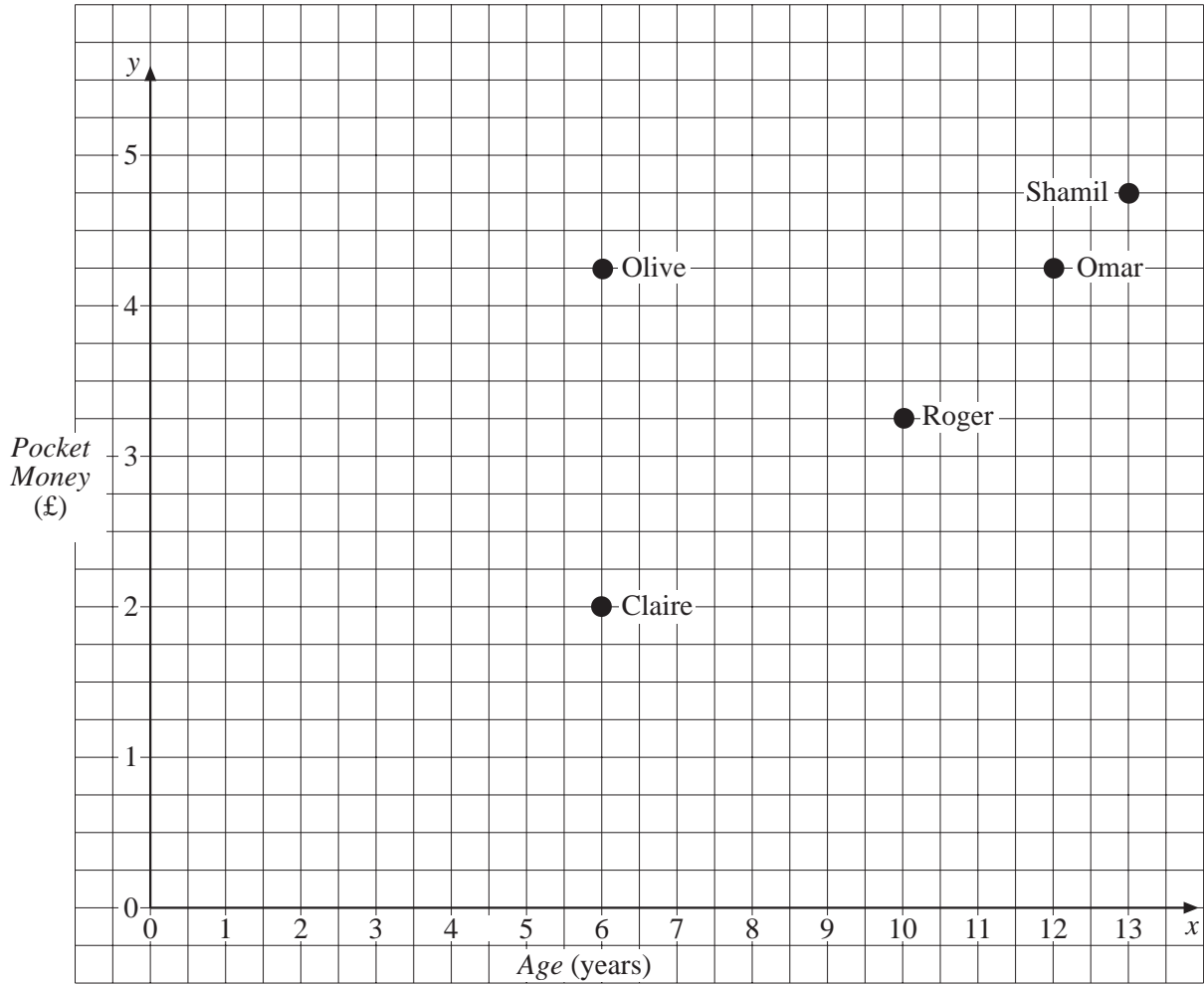


# UNIT 3 *Graphs*

# Extra Exercises 3.1

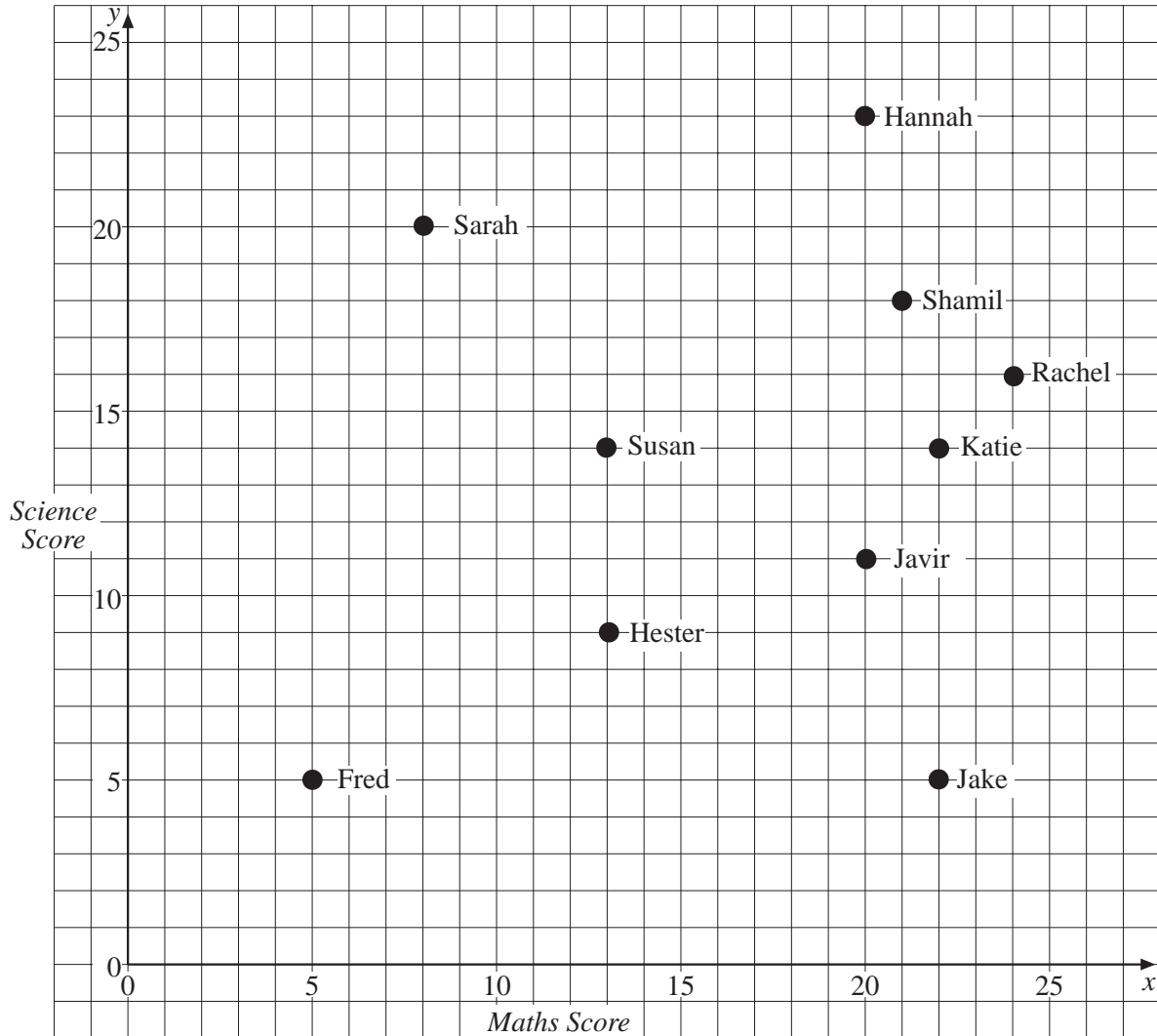
1. This scatter graph shows age and pocket money.



- (a) How old is Roger?
- (b) How much pocket money does Omar get?
- (c) Who is the same age as Olive?
- (d) Who is the oldest of these children?
- (e) Who gets the most pocket money?
- (f) Who gets more than £4 pocket money and is 12 years old?
- (g) Who is 2 years younger than Omar?

**Extra Exercises 3.1**

2. This scatter graph shows scores in the science and maths tests for 10 children.

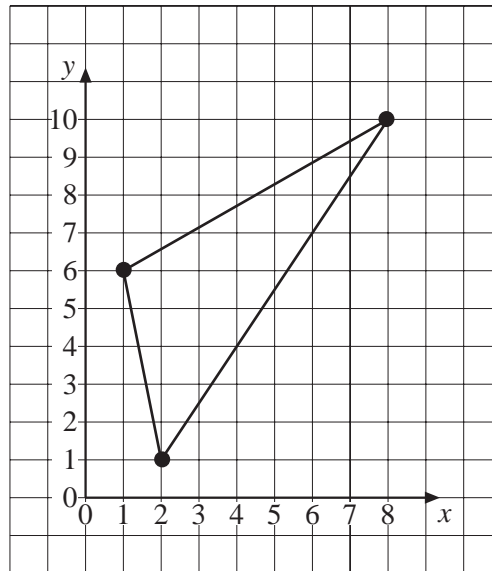


- (a) What mark did Sarah score in science?
- (b) What mark did Hannah score in maths?
- (c) What mark did Javir score in science?
- (d) (i) Who scored 21 marks in maths?  
(ii) How many marks did he score in science?
- (e) Who scored the same mark in maths as Hester?
- (f) What were Rachel's scores in the two tests?
- (g) Who scored the same mark in both tests?

# UNIT 3 *Graphs*

# Extra Exercises 3.2

1. Write down the coordinates of each corner of this triangle.



2. The coordinates of the corners of a triangle are:

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

Draw the triangle.

3. Draw a grid like this one.

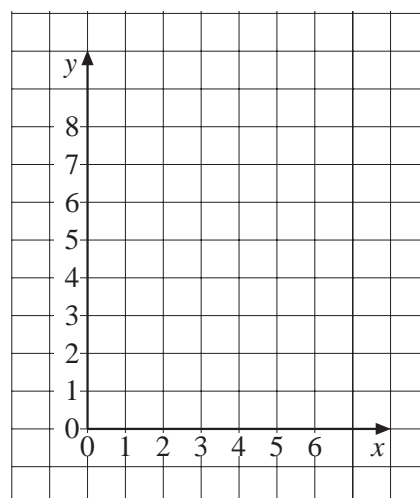
Then join these points in order:

(3, 7), (1, 7), (1, 8), (6, 8), (6, 7),

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

(1, 3), (3, 3), (3, 7).

What letter do you get?



**UNIT 3** *Graphs***Extra Exercises 3.3**

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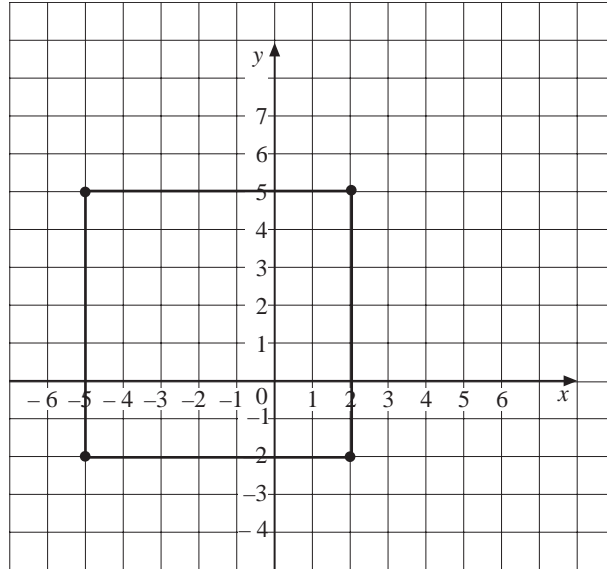
1. What temperature is:
  - (a)  $3^{\circ}\text{C}$  warmer than  $-4^{\circ}\text{C}$ ,
  - (b)  $5^{\circ}\text{C}$  colder than  $2^{\circ}\text{C}$ ,
  - (c)  $10^{\circ}\text{C}$  warmer than  $-6^{\circ}\text{C}$ ,
  - (d)  $8^{\circ}\text{C}$  colder than  $3^{\circ}\text{C}$ ,
  - (e)  $5^{\circ}\text{C}$  warmer than  $-8^{\circ}\text{C}$ ,
  - (f)  $5^{\circ}\text{C}$  colder than  $-2^{\circ}\text{C}$ ,
  - (g)  $8^{\circ}\text{C}$  warmer than  $-3^{\circ}\text{C}$ ,
  - (h)  $5^{\circ}\text{C}$  colder than  $-4^{\circ}\text{C}$ ?
  
2. Write these numbers in order with the smallest first.
  - (a) 6, 7, -2, -4, 8, 0, 2.
  - (b) -1, -2, -5, 5, 2, -3, 1.
  - (c) 6, -6, -5, -4, 2, 3, 0, -1.
  
3. Put  $<$  or  $>$  in between each pair of numbers, to make a true statement.

(a) 3      6	(b) -3      -2
(c) -4      4	(d) 0      -1
(e) -2      -1	(f) 7      8
(g) 0      -7	(h) -9      -10

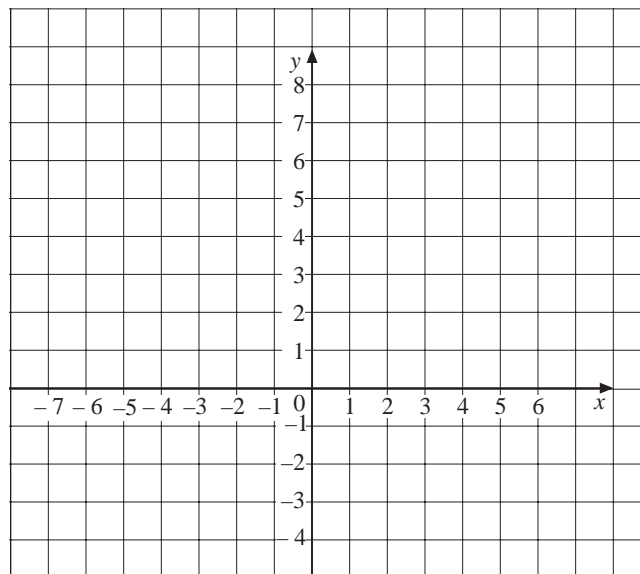
# UNIT 3 *Graphs*

# Extra Exercises 3.4

1. Write down the coordinates of the corners of the square marked on this grid.



2. (a) Draw a grid like this one.

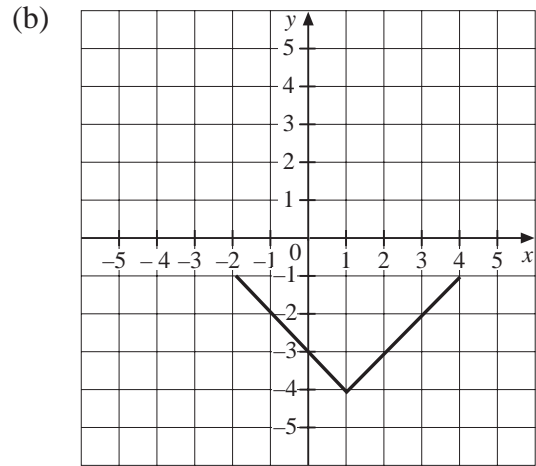
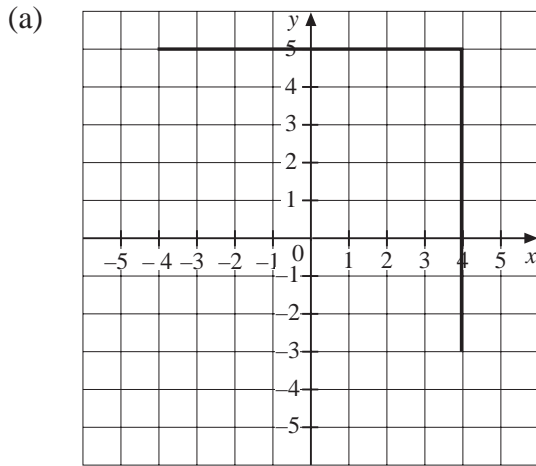


- (b) Plot each set of points, joining them in order.
- (1, 1), (1, 3), (4, 3), (4, 1), (1, 1)
  - (-2, 1), (-2, 3), (-5, 3), (-5, 1), (-2, 1)
  - (1, -4), (1, -1), (3, -1), (3, -4)
  - (-5, -1), (-2, -1), (-2, -3), (-5, -3), (-5, -1)
  - (1, 6), (1, 8), (2, 8), (2, 6)
  - (-7, 4), (-4, 6), (3, 6), (6, 4), (-7, 4)
  - (-6, 4), (-6, -4), (5, -4), (5, 4)

# UNIT 3 *Graphs*

# Extra Exercises 3.5

1. Write down the coordinates of the missing corner of each square.

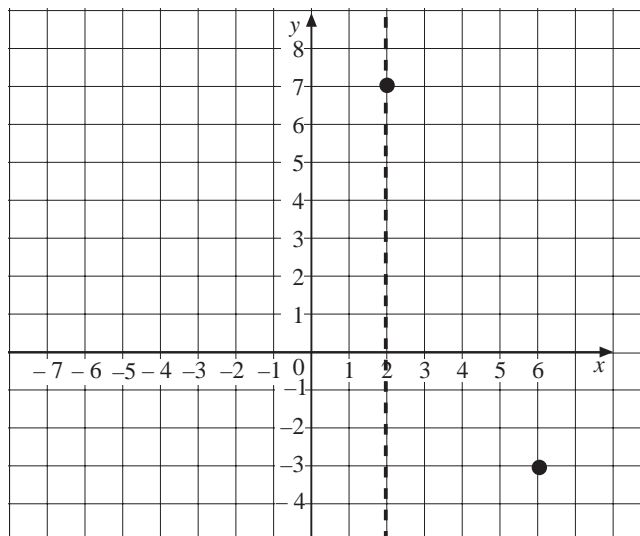


2. The coordinates of three corners of three different rectangles are given below.

For each square, find the coordinates of the other corner.

- (a)  $(0, 0)$ ,  $(4, 0)$  and  $(0, 5)$ .
- (b)  $(-1, -2)$ ,  $(-2, 1)$  and  $(4, 3)$ .
- (c)  $(-1, 4)$ ,  $(-5, 0)$  and  $(2, -7)$ .

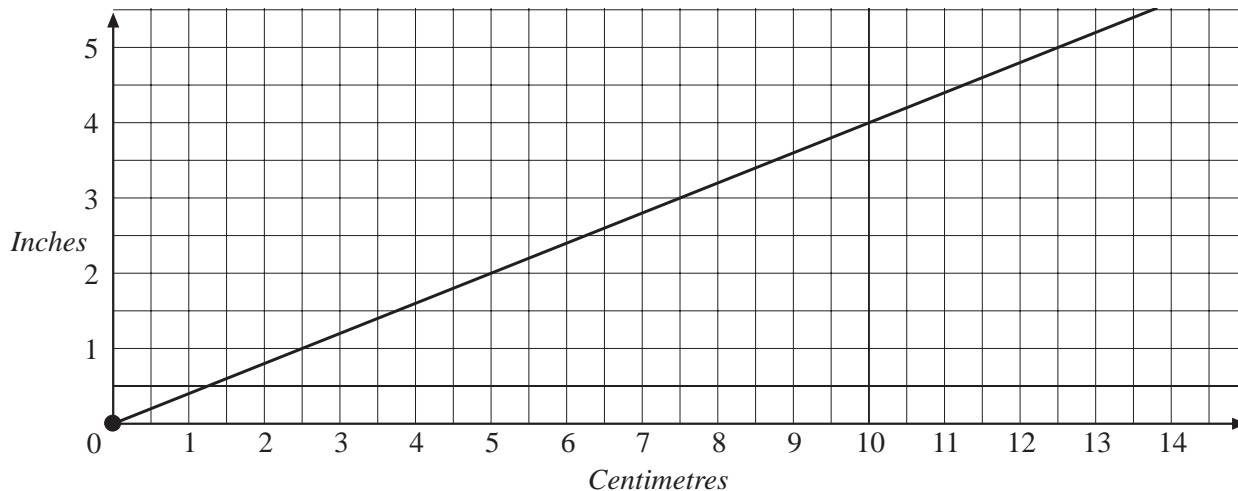
3. The diagram shows two corners of a triangle and a line of symmetry. What are the coordinates of the other corner?



# UNIT 3 *Graphs*

# Extra Exercises 3.6

1. The graph below can be used to convert between inches and centimetres.

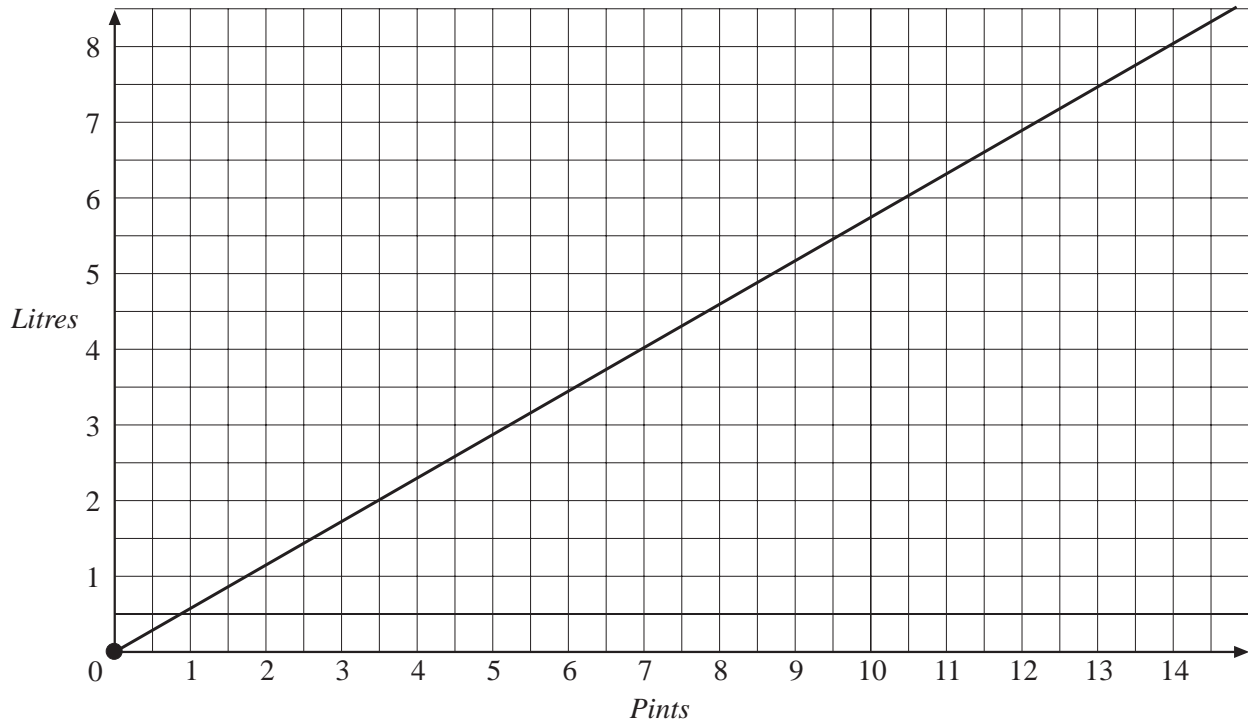


Use the graph to convert:

- (a) 4 inches to cm,
- (b) 1 inch to cm,
- (c) 5 cm to inches,
- (d) 8 cm to inches,
- (e) 12 cm to inches.

### Extra Exercises 3.6

2. This graph can be used to convert pints into litres.



Convert:

- 10 pints to litres.
  - 2.5 pints to litres,
  - 7 pints to litres,
  - 5 litres to pints,
  - 3 litres to pints,
  - 8 litres to pints.
3. If 16 Deutschemarks (DM) are equal to £5, draw and use a conversion graph to convert:
- £3 to DM,
  - £4 to DM,
  - £2.50 to DM,
  - 10 DM to £,
  - 12 DM to £,
  - 5 DM to £.

## Extra Exercises 3.1

## Answers

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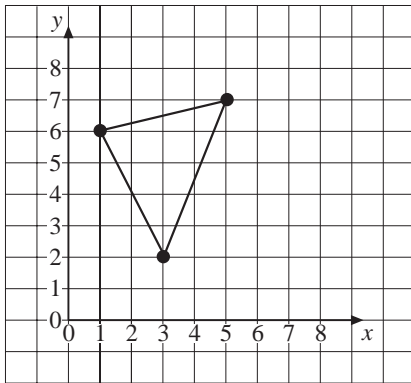
1. (a) 10 years (b) £4.25 per week (c) Claire (d) Shamil  
(e) Shamil (f) Omar (g) Roger
2. (a) 20 (b) 20 (c) 11 (d) (i) Shamil (ii) 18  
(e) Susan (f) Maths - 24, Science - 16 (g) Fred

## Extra Exercises 3.2

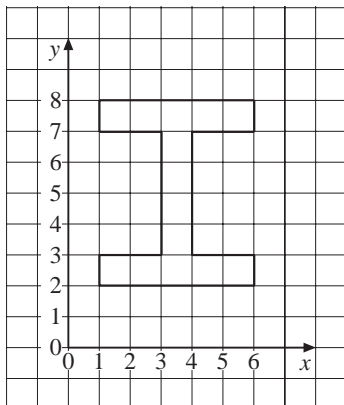
## Answers

1.  $(2, 1)$ ,  $(8, 10)$  and  $(1, 6)$

2.



3.



## Extra Exercises 3.3

## Answers

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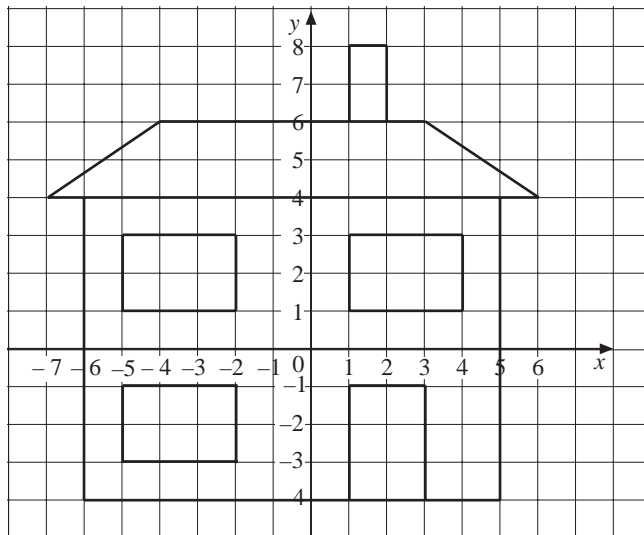
1. (a)  $-1^{\circ}\text{C}$       (b)  $-3^{\circ}\text{C}$       (c)  $4^{\circ}\text{C}$       (d)  $-5^{\circ}\text{C}$       (e)  $-3^{\circ}\text{C}$   
(f)  $-7^{\circ}\text{C}$       (g)  $5^{\circ}\text{C}$       (h)  $-9^{\circ}\text{C}$
2. (a)  $-4, -2, 0, 2, 6, 7, 8$       (b)  $-5, -3, -2, -1, 1, 2, 5$   
(c)  $-6, -5, -4, -1, 0, 2, 3, 6$
3. (a)  $3 < 6$       (b)  $-3 < -2$       (c)  $-4 < 4$       (d)  $0 > -1$   
(e)  $-2 < -1$       (f)  $7 < 8$       (g)  $0 > -7$       (h)  $-9 > -10$

## Extra Exercises 3.4

## Answers

1.  $(2, -2), (2, 5), (-5, 5), (-5, -2)$

2.



## Extra Exercises 3.5

## Answers

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1. (a)  $(-4, -3)$       (b)  $(1, 2)$
2. (a)  $(4, 5)$       (b)  $(5, 0)$       (c)  $(6, -3)$
3.  $(-2, -3)$

## Extra Exercises 3.6

## Answers

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1. (a) 10 cm (b) 2.5 cm (c) 12.5 cm (d) 3.2 cm (e) 4.8 cm
2. (a) 5.75 litres (b) 1.5 litres (c) 4 litres (d) 8.75 pints (e) 5.25 pints  
(f) 14 pints
3. (a) 9.6 DM (b) 12.8 DM (c) 8 DM (d) £3.10 (e) £6.70  
(f) £1.55