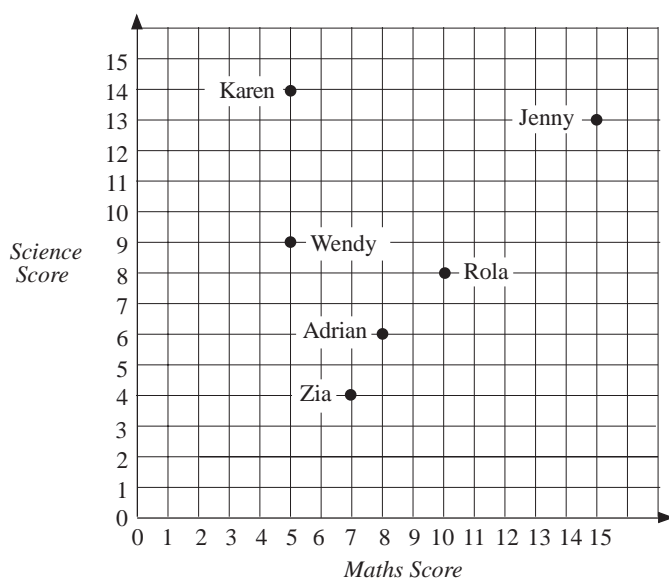


Practice Book *UNIT 3 Graphs*

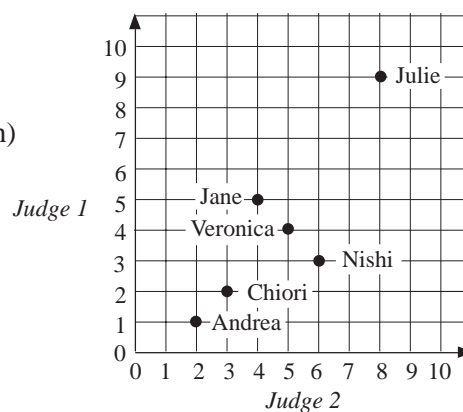
## Answers

## 3.1 Scatter Graphs

1. (a) (i) 25 miles (ii) £40 (b) Rory, Halim (c) Prakesh  
 (d) Money  $\div$  distance i.e.  $\pounds 10 \div 5 = \pounds 2$  (e)  $40 \div 5 = \pounds 8$  (f) £26  
 (g) 23 miles  
 (h) Generally yes, but there are exceptions such as Sally and Sunniva
2. (a) (i) 11 years (ii) £4 (b) Ben, Chris (c) Kristian, Chris  
 (d) Matthew (e) Chris (f) Matthew (g) Tim  
 (h) Rana  
 (i) (This question requires pupils to construct an argument using data given in the scatter graph.)  
 He could compare himself with children of a similar age like Tim and Chris: £4.
3. (a) Stewart (b) Frederick (c) Alison (d) Robin  
 (e) Stewart and Tony (f) Gita (g) Alison, Tony, Stewart
4. (a) Pete (b) Jan (c) Heidi (d) Esther (e) Jan (28)  
 (f) Liz and Jai (10)



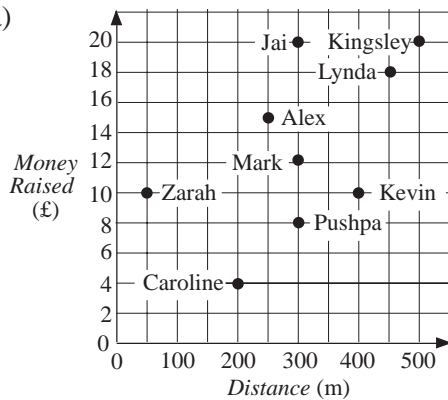
5. (a) Highest: Julie (17 points)  
 (b) Second: Jane, Nishi and Veronica (9 points each)



## 3.1

## Answers

6. (a)



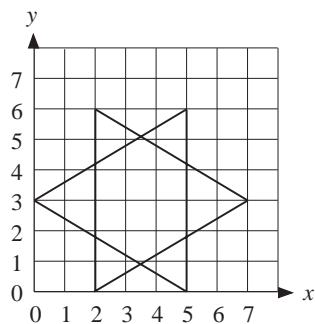
(b) "more"

## 3.2 Plotting Points

1. A (1, 1), B (4, 8), C (10, 4)

2. (a) (16, 3) (b) (13, 13) (c) (20, 6) (d) (5, 10) (e) (2, 17)  
 (f) (15, 17) (g) (10, 18) (h) (5, 4) and (5, 5)

3. (a) and (b)



(c) Shape is a star

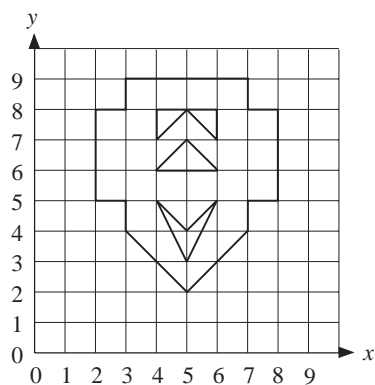
4. Join these points in order:

(a) (1, 3), (1, 8), (2, 9), (7, 9), (8, 8), (8, 3), (7, 2), (2, 2), (1, 3)

(b) Then join these points to form one dot (4, 5), (4, 6), (5, 6), (4, 5)

Shade the square in the centre.

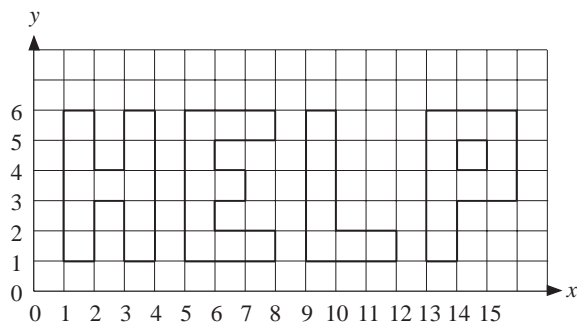
5.



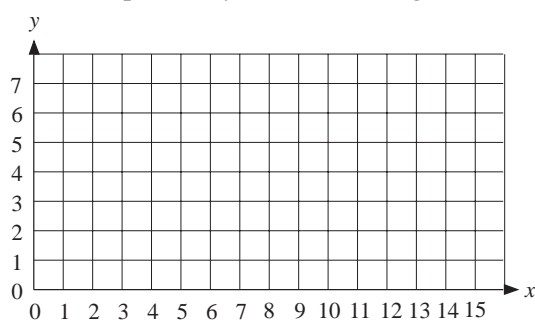
## 3.2

## Answers

6.



7. (a) For this question you will need a grid like this.



Join each set of points in order, to create the initials of someone's name.

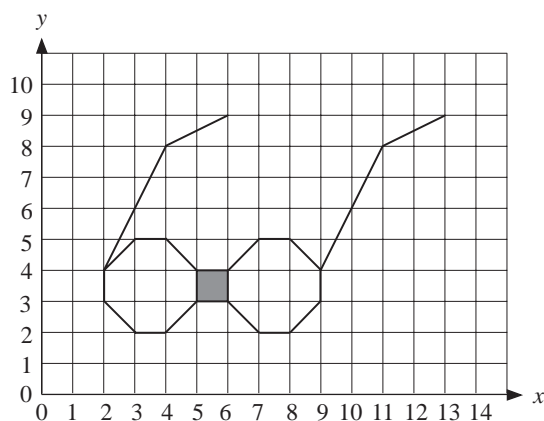
(a) J: (1, 7), (6, 7), (6, 6), (4, 6), (4, 1), (1, 1), (1, 3), (2, 3), (2, 2), (3, 2)  
(3, 6), (1, 6), (1, 7)

Dot: (6, 2), (7, 2), (7, 1), (6, 1), (6, 2)

C: (8, 7), (13, 7), (13, 5), (12, 5), (12, 6), (9, 6), (9, 2), (12, 2), (12, 3)  
(13, 3), (13, 1), (8, 1), (8, 7)

Dot: (14, 2), (15, 2), (15, 1), (14, 1), (14, 2)

8.



(d) Additional points: (5,4), (4,5), (3,5),  
(2,4), (2,3), (3,2), (4,2), (5,3),  
and (9,4), (11,8), (13,9)  
or (9,4), (7,8), (5,9)

## 3.3 Negative Numbers

1. (a)  $2^{\circ}\text{C}$  (b)  $-9^{\circ}\text{C}$  (c)  $0^{\circ}\text{C}$  (d)  $1^{\circ}\text{C}$  (e)  $-7^{\circ}\text{C}$   
(f)  $-2^{\circ}\text{C}$  (g)  $-4^{\circ}\text{C}$  (h)  $-4^{\circ}\text{C}$  (i)  $-12^{\circ}\text{C}$  (j)  $8^{\circ}\text{C}$

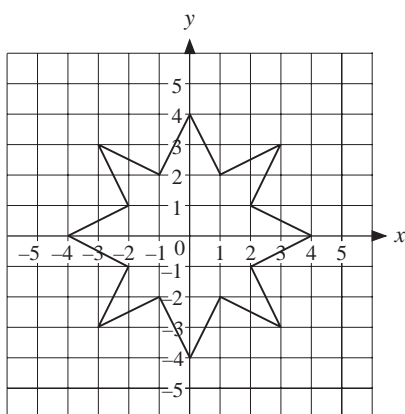
## Answers

2. (a) 1 (b) -5 (c) -2 (d) -4 (e) -9  
 (f) -13 (g) -15 (h) 11 (i) -2 (j) 12
3. (a) -10, -7, -5, -2, 3, 6, 8 (b) -3, -2, -1, 0, 1, 3, 8  
 (c) -90, -50, -20, -7, 5, 60, 100
4. (a)  $4 > 2$  (b)  $-6 < -2$  (c)  $-3 < 4$  (d)  $2 > -4$   
 (e)  $-6 > -7$  (f)  $-6 < -5$  (g)  $0 < 1$  (h)  $-1 < 0$
5. (a) False (b) True (c) True (d) True (e) False  
 (f) False (g) True (h) True (i) False (j) True
6. (Note that the term *integer* is used in question 6.)  
 (a) 6 (b) -4 (c) -4, -5, -6 (d) -5, -4, -3, -2, -1  
 (e) 0, 1

### 3.4 Coordinates

1. (a) (i) (2, 3) (ii) (4, -4) (iii) (-5, -3)  
 (iv) (-5, 4) (v) (-3, -1)  
 (b) Tennis court; camp site  
 (c) He would have to pass through the sea

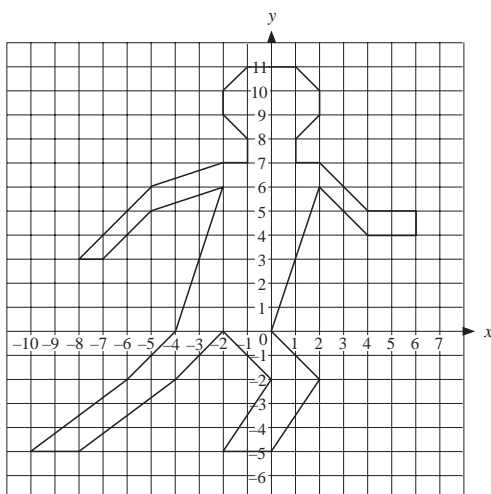
2.



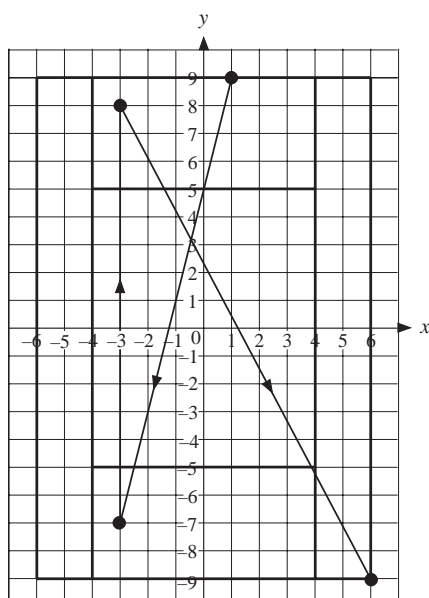
3. (a) (-6, -2), (-6, -4), (-4, -4), (-4, -2)  
 (b) Left foot on white square.  
 (i) Left on white, right on black  
 (ii) Both on white,  
 (iii) Left on white, right on black  
 (iv) Left on playground, right on black,  
 (v) Left on black, right on white

# Answers

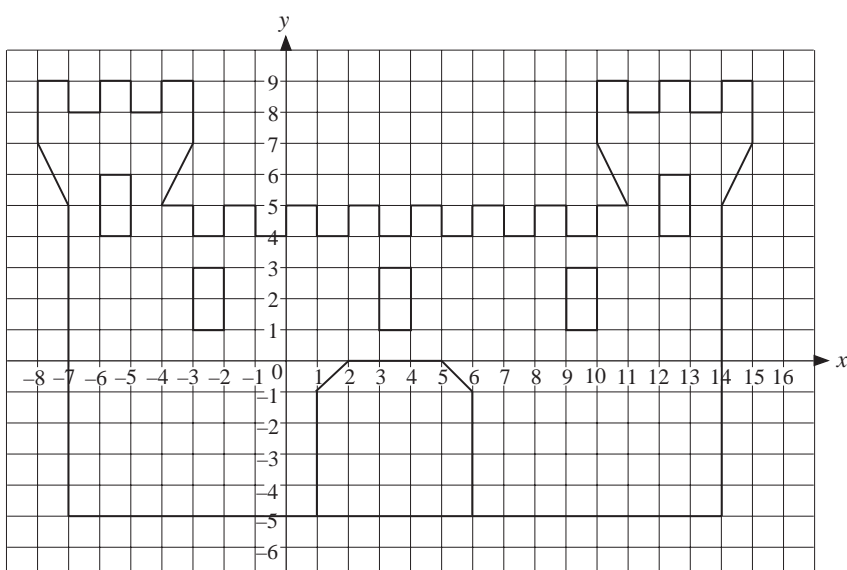
4.



5.



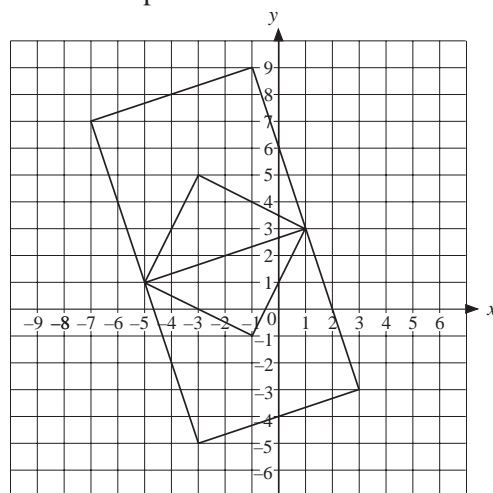
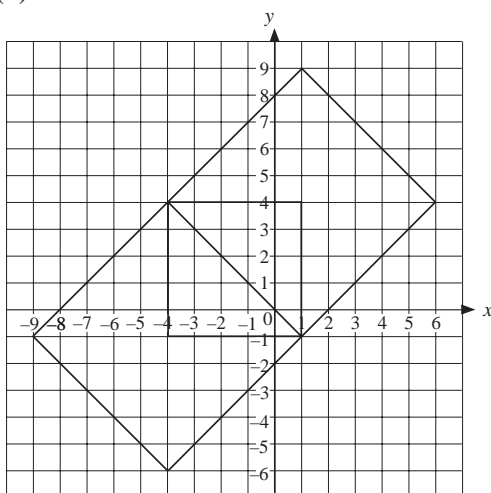
6.



# Answers

## 3.5 Plotting Polygons

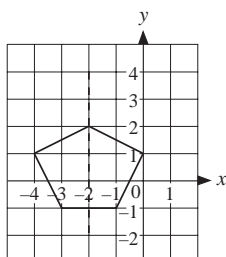
1. (a)  $(2, 3)$  (b)  $(5, -6)$  (c)  $(-1, 1)$  (d)  $(2, -4)$
2. (a)  $(-3, -2)$  (b)  $(2, 5)$  (c)  $(6, 2)$  (d)  $(2, -4)$  (e)  $(-4, -5)$
3. (a)  $(5, -5)$  (b)  $5, 0)$
4. (a)  $(6, 2)$  (b)  $(6, -4)$  (c)  $(-1, 6)$  (d)  $(3, -5)$
5. (a), (b) (c) Yes it is possible



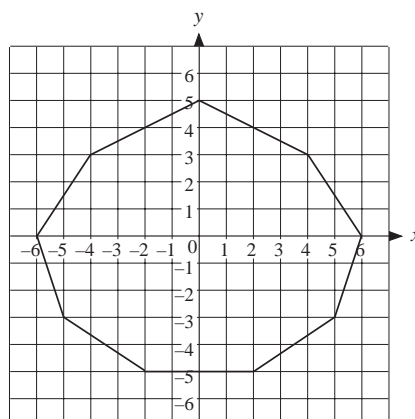
6.  $(-1, 2)$
7.  $(2, -2), (4, 0)$

**Note:** Pupils may need to be reminded of the meaning of a line of symmetry for the remaining questions.

8.  $(0, 1)$  and  $(-1, -1)$



9.  $(4, -3), (6, -1), (6, 1)$
10. (c)  $(-4, 3), (-2, -5), (6, 0), (5, -3)$

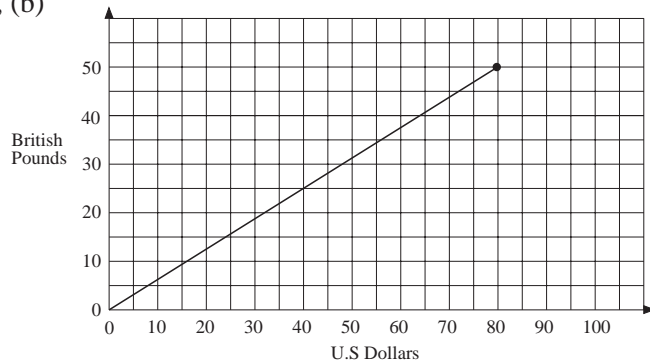


# Answers

## 3.6 Conversion Graphs

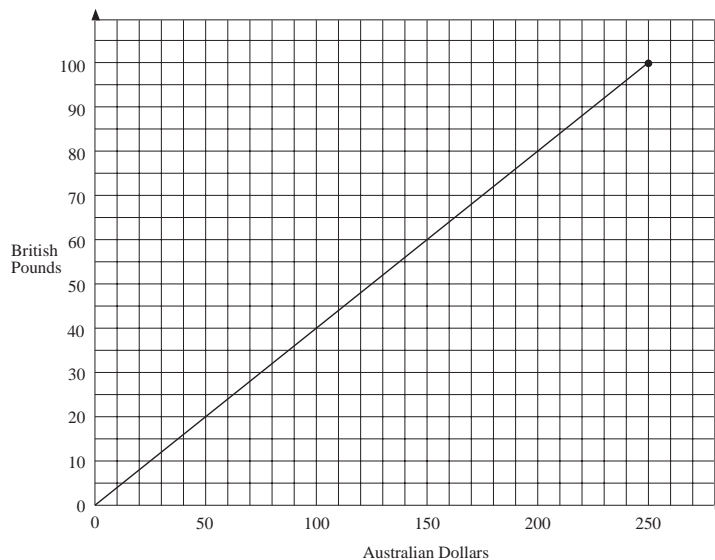
1. (a) (i) 30 DK (ii) 70 DK (iii) 45 DK  
 (b) (i) £8 (ii) £6 (iii) £2.50
2. (a) (i) 66 lb (ii) 22lb (iii) 99lb  
 (b) (i) 50 kg (ii) 9 kg (iii) 38 lb

3. (a), (b)



- (c) (i) \$32 (ii) \$56 (iii) \$24
- (d) (i) £31 (ii) £28 (iii) £16

4. (a)

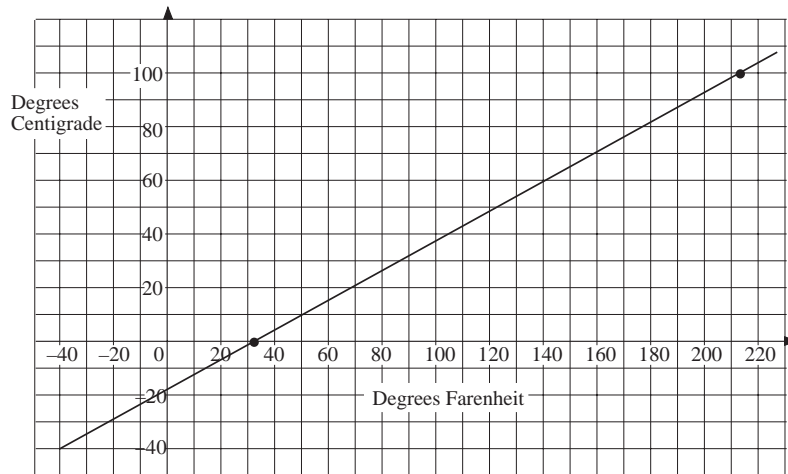


- (b) (i) £80 (ii) £20
- (c) (i) 188 Aus \$ (ii) 200 Aus \$ (iii) 113 Aus \$

5. (a) See over page
- (b) (i) 71°C (ii) 16°C (iii) 21°C (iv) 35°C
- (c) (i) 140°F (ii) 68°F (iii) 86°F (iv) 113°F
- (d) See where the line crosses the vertical axis.
- (e)  $-40^{\circ}\text{C} = -40^{\circ}\text{F}$

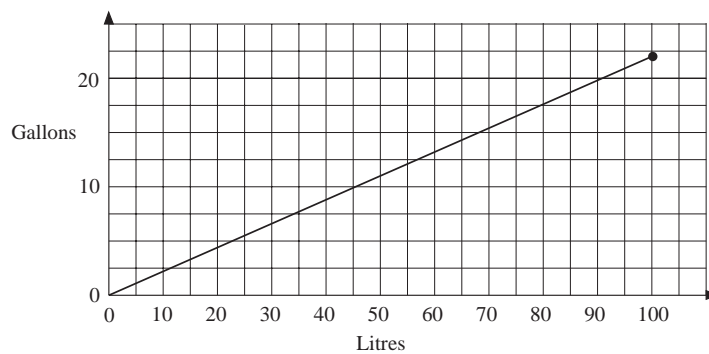
# Answers

5. (a)



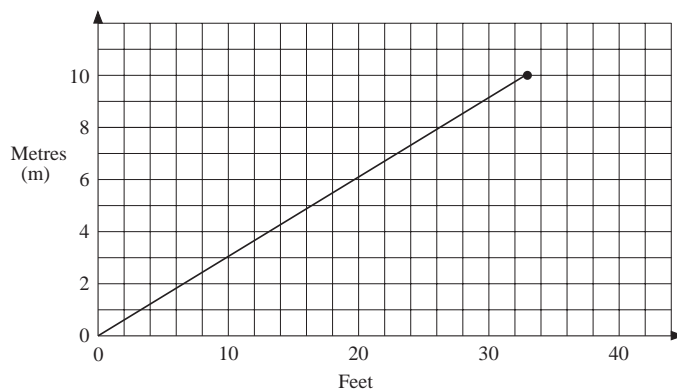
6. (a) 120 minutes (b) 25 minutes (c) 1400 grams (d) 65 minutes

7. (a)



(b) 91 litres (c) 9 gallons (d) 36 litres (e) 9 gallons  
(f) 68 litres (g) 36 cans (h) Old toilet uses about 1 litre more than the new toilet.

8.



(a) Mohammed by about 1 foot (b) 6.5 m  
(c) Yes, 8 m is about 26.5 feet (d) 30 feet (e) 6.5 m or 21 feet.