## Co-ordinates in the 4 Quadrants

Warning! This work involves negative numbers.
Remember to follow the same rules for creating co-ordinates $-x$ before $y$.


2nd Quadrant
If the first co-ordinate is negative and the second co-ordinate is positive, it will fall in here.

$$
(-4,3)
$$

1st Quadrant
If both co-ordinates are positive numbers, it will
fall in here.
$(4,3)$

3rd Quadrant
If both co-ordinates are negative numbers, it will fall in here.
$(-4,-3)$

4th Quadrant
If the first co-ordinate is positive and the second co-ordinate is negative, it will fall in here.
$(4,-3)$

## Snowflake Coordinates

Aim: I can use coordinates in first quadrant.

1. Use the given coordinates to draw one part of a snowflake.

Line $A(0,2)(1,4)(0,5)$
Line $B(0,7)(1,9)(3,7)(4,10)(6,8)(7,10)$
Line C $(3,5)(3,6)(7,7)(6,3)(5,3)(6,6)(3,5)$
Line $D(2,2)(3,4)(4,4)(4,3)(2,2)$
Line $E(2,0)(4,1)(5,0)$
Line $F(7,0)(9,1)(7,3)(10,4)(8,6)(10,7)$
2. Cut out the whole square and fold into quarters, so the drawn area is on the top.
3. Cut out the given shape.
4. Fold diagonally along the dotted line to cut out the parts within the middle.


Snowflake Coordinates Answers


## Snowflake Coordinates

Aim: I can use coordinates in first quadrant.

1. a) Use the given coordinates to draw one part of a snowflake.

Line $A(0,7)(2,10)(5,8)(7,10)(8,9)(9,10)$
Line $B(7,7)(2,7)(3,5)(6,6)$
Line C $(0,3)(1,4)(0,6)$
Line $D(2,2)(2,4)(4,4)$

1. b) Draw the reflection and write the coordinates.

Line A: $\qquad$
Line B: $\qquad$
Line C: $\qquad$
Line D: $\qquad$
2. Cut out the whole square and fold into quarters, so the drawn area is on the top.
3. Cut out the given shape.
4. Fold diagonally along the dotted line to cut out the parts within the middle.


## Snowflake Coordinates Answers



1. b)

Line A: $(7,0)(10,2)(8,5)(10,7)(9,8)(10,9)$
Line B: $(7,7)(7,2)(5,3)(6,6)$
Line C: $(3,0)(4,1)(6,0)$
Line D: $(2,2)(4,2)(4,4)$

## Snowflake Coordinates

Aim: I can use coordinates in all quadrants.

1. Use the given coordinates to draw one part of a snowflake.

Line A $(-5,0)(-8,-1)(-9,0)$
Line $B(-1,-1)(-6,-2)(-6,-3)(-3,-3)$
Line C $(-4,-4)(-7,-4)(-6,-6)$
Line $D(-10,-2)(-8,-3)(-10,-5)(-8,-6)(-10,-7)(-9,-8)(-10,-9)$
2. Draw the reflection and repeat to each quadrant, writing the coordinates of each point within the quadrant.
Bottom left quadrant:
Line A reflection: $\qquad$
Line $B$ reflection: $\qquad$
Line C reflection: $\qquad$
Line D reflection: $\qquad$
Top left quadrant:
Line A: $\qquad$ Line A reflection: $\qquad$
Line B: $\qquad$ Line $B$ reflection: $\qquad$
Line C: $\qquad$ Line C reflection: $\qquad$
Line D: $\qquad$ Line D reflection: $\qquad$
Bottom right quadrant:
Line A: $\qquad$ Line A reflection: $\qquad$
Line B: $\qquad$ Line B reflection: $\qquad$
Line C: $\qquad$ Line C reflection: $\qquad$
Line D: $\qquad$ Line D reflection: $\qquad$
Top right quadrant:
Line A: $\qquad$ Line A reflection: $\qquad$
Line B: $\qquad$ Line $B$ reflection: $\qquad$
Line C: $\qquad$ Line C reflection: $\qquad$
Line D: $\qquad$ Line D reflection: $\qquad$
3. Cut out the given shape.
4. Fold diagonally along the dotted line to cut out the parts within the middle.


## Snowflake Coordinates Answers



## Snowflake Coordinates Answers

Bottom left quadrant:
Line A reflection: $(0,-5)(-1,-8)(0,-9)$
Line $B$ reflection: $(-1,-1)(-2,-6)(-3,-6)(-3,-3)$
Line C reflection: $(-4,-4)(-4,-7)(-6,-6)$
Line D reflection: $(-2,-10)(-3,-8)(-5,-10)(-6,-8)(-7,-10)(-8,-9)(-9,-10)$
Top left quadrant:
Line A: $(-5,0)(-8,1)(-9,0)$
Line B: $(-1,1)(-6,2)(-6,3)(-3,3)$
Line C: $(-4,4)(-7,4)(-6,6)$
Line D: $(-10,2)(-8,3)(-10,5)(-8,6)(-10,7)(-9,8)(-10,9)$
Line A reflection: $(0,5)(-1,8)(0,9)$
Line B reflection: $(-1,1)(-2,6)(-3,6)(-3,3)$
Line C reflection: $(-4,4)(-4,7)(-6,6)$
Line D reflection: $(-2,10)(-3,8)(-5,10)(-6,8)(-7,10)(-8,9)(-9,10)$
Bottom right quadrant:
Line A: $(5,0)(8,-1)(9,0)$
Line B: $(1,-1)(6,-2)(6,-3)(3,-3)$
Line C: $(4,-4)(7,-4)(6,-6)$
Line D: $(10,-2)(8,-3)(10,-5)(8,-6)(10,-7)(9,-8)(10,-9)$
Line A reflection: $(0,-5)(1,-8)(0,-9)$
Line B reflection: $(1,-1)(2,-6)(3,-6)(3,-3)$
Line C reflection: $(4,-4)(4,-7)(6,-6)$
Line D reflection: $(2,-10)(3,-8)(5,-10)(6,-8)(7,-10)(8,-9)(9,-10)$
Top right quadrant:
Line A: $(5,0)(8,1)(9,0)$
Line B: $(1,1)(6,2)(6,3)(3,3)$
Line C: $(4,4)(7,4)(6,6)$
Line D: $(10,2)(8,3)(10,5)(8,6)(10,7)(9,8)(10,9)$
Line A reflection: $(0,5)(1,8)(0,9)$
Line B reflection: $(1,1)(2,6)(3,6)(3,3)$
Line C reflection: $(4,4)(4,7)(6,6)$
Line D reflection: $(2,10)(3,8)(5,10)(6,8)(7,10)(8,9)(9,10)$

## Café Coordinates

## I can read coordinates in the first quadrant.

000
What food and drink is at the following coordinates?


## Café Coordinates

What food and drink is at the following coordinates?


$$
(1,9)=
$$

$$
(1,5)=
$$



$$
(10,6)=
$$

= _-------_-_

$$
(9,9)=
$$

$\qquad$

$$
(5,4)=
$$

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$$
(7,4)=
$$

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$$
(9,2)=
$$

$$
(3,10)=\text { _----------- }
$$

$$
(5,9)=
$$

$\qquad$

$$
(7,1)=
$$

$-ー--------\quad$

| pancakes | strawberry | cheese | cola |
| :---: | :---: | :---: | :---: |
| doughnut | banana | orange juice | ham |
| mustard | ice cream | eggs | yoghurt |
| blueberries | tomato | cupcake | cucumber |
| apple | hot cross bun | crisps |  |

## Café Coordinates

What food and drink is at the following coordinates?


## Café Coordinates - Answers

| $\star$ | $\pm$ | + |
| :---: | :---: | :---: |
| $(3,2)=$ Blueberries | $(1,9)=$ Pancakes | $(6,11)=$ Cheese |
| $(6,1)=$ Cupcake | $(10,6)=$ Ice Cream | $(2,6)=$ Eggs |
| $(2,6)=$ Strawberry | $(5,4)=$ Yoghurt | $(11,11)=$ Cola |
| $(1,3)=$ Eggs | $(9,2)=$ Cupcake | $(9,1)=$ Hot Cross Bun |
| $(4,3)=$ Yoghurt | $(5,9)=$ Cheese | $(4,8)=\mathrm{Ham}$ |
| $(2,0)=$ Cucumber | $(1,5)=$ Eggs | $(7,7)=$ Yoghurt |
| $(3,6)=$ Cheese | $(9,9)=$ Cola | $(11,6)=$ Ice Cream |
| $(1,5)=$ Doughnut | $(7,4)=$ Crisps | $(1,9)=$ Doughnut |
| $(5,2)=$ Crisps | $(3,10)=$ Strawberry | $(8,4)=$ Crisps |
| $(6,6)=$ Cola | $(7,1)=$ Hot Cross Bun | $(6,2)=$ Cucumber |

## Coordinate Pictures

## Plot these co-ordinates to make a star picture:

Line 1: $(12,13),(18,20)$
Line 2: $(10,16),(11,12),(16,12),(12,9),(14,4),(10,7),(6,4),(8,9),(4,12),(9,12),(10,16)$ Line 3: $(14,8)$, $(20,7)$

Line 4: $(8,13),(2,20)$
Line 5: $(10,0),(10,5)$
Line 6: $(10,20),(12,13),(20,13),(14,8),(17,0),(10,5),(3,0),(6,8),(0,13),(8,13),(10,20)$
Line 7: $(6,8),(0,7)$


## Coordinate Pictures

## Plot these co-ordinates to make a picture of a windmill:

Line 1: $(8,13),(7,12),(7,10)$
Line 2: $(11,10),(11,8),(10,7),(15,2),(17,4),(3,18),(5,20),(10,15),(9,14),(9,12)$
Line 3: $(13,12),(13,8)$
Line 4: $(9,14),(11,14),(12,13)$
Line 5: $(13,4),(13,0),(7,0),(7,8)$
Line 6: $(8,7),(8,5),(9,5),(9,7),(8,7)$
Line 7: $(11,12),(13,12),(14,11),(19,16),(17,18),(3,4),(1,6),(6,11),(7,10),(9,10)$
Line 8: $(11,4),(12,4),(12,2),(11,2),(11,4)$


## Coordinate Pictures

Plot these co-ordinates to make a picture of a tractor:
Line 1: $(15,10),(15,14),(16,15),(16,10)$
Line 2: $(7,12),(9,14)$
Line 3: $(4,7),(3,6),(3,5),(4,4),(5,4),(6,5),(6,6),(5,7),(4,7)$
Line 4: $(15,4),(15,3),(16,2),(17,2),(18,3),(18,4),(17,5),(16,5),(15,4)$,
Line 5: $(8,4),(8,7),(6,9),(3,9),(1,7),(1,4),(3,2),(6,2),(8,4)$
Line 6: $(11,10),(8,13)$
Line 7: $(1,17),(12,17),(10,18),(1,18),(1,10),(0,9),(0,8),(2,10),(7,10),(9,8),(9,6),(12,6)$, $(13,10),(10,17)$
Line 8: $(18,4),(20,5),(20,10),(16,10),(16,8),(17,8),(17,7),(15,7),(15,10),(7,10),(6,11),(3,11)$,

$$
(3,15),(2,15),(2,8)
$$

Line 9: $(8,4)(15,4)$


Coordinate Pictures Answers



## Shape Coordinates

For each letter, plot the coordinates to reveal a missing shape.
For each shape, you need to do the following:

- name the shape;
- describe the properties of the shape (think about sides, angles, how it can be described).

A. $(2,2)(8,2)(8,-2)(2,-2)(2,2)$
B. $(-7,5)(-7,8)(-3,5)(-7,5)$
C. $(-7,-2)(-9,-4)(-7,-6)(-5,-4)(-7,-2)$
D. $(5,-4)(3,-6)(5,-9)(7,-6)(5,-4)$
E. $(4,9)(2,6)(7,6)(9,9)(4,9)$ $\qquad$


## Shape Coordinates Answers


A. $(2,2)(8,2)(8,-2)(2,-2)(2,2)$ rectangle
B. $(-7,5)(-7,8)(-3,5)(-7,5)$ right-angled triangle
C. $(-7,-2)(-9,-4)(-7,-6)(-5,-4)(-7,-2)$ rhombus
D. $(5,-4)(3,-6)(5,-9)(7,-6)(5,-4)$ kite
E. $(4,9)(2,6)(7,6)(9,9)(4,9)$ parallelogram

## Shape Coordinates

For each letter, plot the coordinates to reveal a missing shape. For each shape, you need to do the following:

- name the shape;
- describe the properties of the shape (think about sides, angles, how it can be described).

A. $(3,-3)(3,-6)(7,-6)$
B. $(-7,-3)(-9,-6)(-2,-6)(-4,-3)$
C. $(-3,0)(-5,2)(-7,0)(-5,-2)$
D. $(0,4)(3,7)(8,7)(5,4)(0,4$ $\qquad$
E. $(-5,4)(-8,4)(-8,6)(-6,8)(-4,6)$ $\qquad$

Challenge: Translate shape A 4 left and 4 up. Write the new coordinates.
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## Shape Coordinates Answers


A. $(3,-3)(3,-6)(7,-6)$ right-angled triangle
B. $(-7,-3)(-9,-6)(-2,-6)(-4,-3)$ trapezium
C. $(-3,0)(-5,2)(-7,0)(-5,-2)$ rhombus
D. $(0,4)(3,7)(8,7)(5,4)(0,4)$ parallelogram
E. $(-5,4)(-8,4)(-8,6)(-6,8)(-4,6)$ irregular pentagon

Challenge: Translate shape A 4 left and 4 up. Write the new coordinates.
$(-1,1)(-1,-2)(3,-2)$

## Shape Coordinates

For each letter, plot the coordinates to reveal a missing shape.
For each shape, you need to do the following:

- name the shape;
- describe the properties of the shape (think about sides, angles, how it can be described).

A. $(0,-2)(4,2)(9,2)(5,-2)(0,-2)$
B. $(-9,-8)(0,-8)(-3,-5)(-6,-5)(-9,-8)$
C. $(5,-9)(9,-6)(7,-6)(5,-4)(3,-6)(5,-9)$
D. $(3,5)(7,5)(5,9)(3,5)$
E. $(-7,5)(-5,7)(-3,6)(-3,9)(-7,9)(-9,7)(-7,5)$

Challenge: Reflect shape $A$ in the $y$ axis. Write the new coordinates.
$(),(),(),(),($,

## Shape Coordinates Answers


A. $(0,-2)(4,2)(9,2)(5,-2)(0,-2)$ rhombus
B. $(-9,-8)(0,-8)(-3,-5)(-6,-5)(-9,-8)$ trapezium
C. $(5,-9)(9,-6)(7,-6)(5,-4)(3,-6)(5,-9)$ irregular pentagon
D. $(3,5)(7,5)(5,9)(3,5)$ isosceles triangle
E. $(-7,5)(-5,7)(-3,6)(-3,9)(-7,9)(-9,7)(-7,5)$ irregular hexagon

Challenge: Reflect shape $A$ in the $y$ axis. Write the new coordinates.
$(0,-2)(-5,-2)(-9,2)(-4,2)(0,-2)$

## Tour de France Coordinates Game

A game for 2 players.

## Instructions

Using the grid on the next page, draw 10 bicycle wheels without the other player seeing where you have drawn them. Make sure that your wheels have their centre on a grid point and don't touch any other grid points.

## For example:



You mustn't change the position of the wheels once they have been drawn.
Take it in turns to call out a coordinate. The aim of the game is to be the first player to have guessed the position of all 10 of your opponent's wheels. You must tell your opponent when they've found a wheel.

Have a 'wheely' good time!


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## Tour de France Coordinates, Translation and Reflection

1. Give the coordinates of the following images:
a) bike $\qquad$
b) Eiffel Tower $\qquad$
c) stop watch $\qquad$
2. Draw a cycling helmet in $(2,4),(3,4),(2,3)$ and $(3,3)$.
3. Draw a water bottle in $(-5,-8)$ and $(-5,-9)$.

4. Draw and colour in the French flag. The four corners of the flag must match the following coordinates: a) $(4,-6)$, b) $(10,-6)$, c) $(4,-10)$ and d) $(10,-10)$.
Label each corner with the corresponding letter.
5. Look for the phrase 'Tour de France'. Write its coordinates below:
6. Write the word 'cycling' across the following coordinates: $(-9,-2),(-8,-2)$ and $(-7,-2)$
7. Write a Tour de France themed word diagonally on the grid. It must cross at least one axis. Write the coordinates below:
8. Translate the French flag 7 squares up and 5 squares to the left. Label the new points a1, b1, c1 and d1 and write down the new coordinates:
9. Reflect the outline of the original French flag in the lower left quadrant. Label the new points $\mathrm{a} 2, \mathrm{~b} 2, \mathrm{c} 2$ and d 2 . What are the new coordinates of the flag? Colour the reflected flag.
10. Using the French flag labelled $\mathrm{a} 2, \mathrm{~b} 2, \mathrm{c} 2$ and d 2 , translate the shape 5 squares to the right and 13 squares up. Label the new points $a 3, b 3, c 3$ and $d 3$. What are the new coordinates of the flag?



## Answers

1. Give the coordinates of the following images:
a) bike
b) Eiffel Tower
c) stop watch
2. Draw a cycling helmet in (2,4), (3,4), $(2,3)$ and $(3,3)$.

Check that the cycling helmet is drawn within (2,4), $(3,4),(2,3)$ and $(3,3)$
3. Draw a water bottle in $(-5,-8)$ and $(-5,-9)$.

Check that the water bottle is drawn within ( $-5,-8$ ) and ( $-5,-9$ ).
4. Draw and colour in the French flag. The four corners of the flag must match the following coordinates.
a) $(4,-6)$, b) $(10,-6)$, c) $(4,-10)$ and d) $(10,-10)$.

Label each corner with the corresponding letter.
Check the French flag is split into 3 sections and coloured in blue, white and red (left to right). Make sure the coordinates match the following information:
a) $(4,-6)$ b) $(8,-6)$, c) $(4,-9)$ and d) $(8,-9)$

Each corner must be labelled with its corresponding letter.
5. Look for the phrase 'Tour de France'. Write its coordinates below:
$(2,-4),(3,-4),(4,-4)$
6. Write the word 'cycling' across the following coordinates: $(-9,-2),(-8,-2)$ and $(-7,-2)$

Check that the word 'cycling' is written across the following coordinates: (-9,-2), (-8,-2) and (-7,2) only.
7. Write a Tour de France themed word diagonally on the grid. It must cross at least one axis. Write the coordinates below:
Check the word is appropriate and moves diagonally, crossing at least one axis. Make sure all coordinates have been given and brackets and commas have been included.
8. Translate the French flag 7 squares up and 5 squares to the left. Label the new points a $1, \mathrm{~b} 1, \mathrm{c} 1$ and d 1 and write down the new coordinates:
a1) $(-1,0), b 1)(3,0), c 1)(-1,-3)$ and $d 1)(3,-3)$. Check that the colours are in reflected order - red, white, blue.
9. Reflect the outline of the original French flag in the lower left quadrant. Label the new points $a 2, b 2, c 2$ and d2. What are the new coordinates of the flag? Colour the reflected flag.
a2) ( $-4,-6$ ), b2) ( $-8,-6$ ), c2) ( $-4,-9$ ) and d2) ( $-8,-9$ )
10. Using the French flag labelled $\mathrm{a} 2, \mathrm{~b} 2, \mathrm{c} 2$ and d 2 , translate the shape 5 squares to the right and 13 squares up. Label the new points a3, b3, c3 and d3. What are the new coordinates of the flag?
a3) $(1,7)$, b3) $(-3,7), c 3)(1,4)$ and d3) $(-3,4)$

## Tour de France Coordinates, Translation and Reflection

Using the grid paper on the next page, draw a 4-quadrant grid with labelled axis. The $x$ axis must be numbered from -10 to 10 and the $y$ axis must be numbered from 10 to -10 .

1. Plot the following points and join up the dots to reveal a Tour de France themed image:
a) $(-8,3)$
) b) $(-8,4)$ c) $(-7,5)$
d) $(-6,4)$ e) $(-5,4)$
f) $(-4,5)$ g) $(-3,4)$
h) $(-3,2)$
) i) $(-4,2)$ j) $(-4,3)$
k) $(-4,1)$ l) $(-4,0)$ m) $(-4,-1)$ n) $(-5,-1)$ o) $(-6,-1)$ p) $(-7,-1)$ q) $(-7,0)$ r) $(-7,2)$ s) $(-7,3)$
t) $(-8,2)$ u) $(-8,3)$
2. a) Next reflect this image by placing a mirror on the $y$ axis. What are the new coordinates? Label each point a1, b1 etc and write down the new coordinates below:
$\qquad$
$\qquad$
$\qquad$
b) Translate this image 8 squares down and 8 squares to the left. Label each new point a2, b2 etc and write the new coordinates below:
$\qquad$
$\qquad$
$\qquad$
3. Using the shape labelled $\mathrm{a} 1, \mathrm{~b} 1$ etc, rotate this image 180 degrees around point ( $4,-1$ ).


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## Answers

1. Plot the following points and join up the dots to reveal a Tour de France themed image:
a) $(-8,3)$ b) $(-8,4)$ c) $(-7,5)$ d) $(-6,4)$ e) $(-5,4)$ f) $(-4,5)$ g) $(-3,4)$ h) $(-3,2)$ i) $(-4,2)$ j) $(-4,3)$
k) $(-4,1)$ l) $(-4,0)$ m) $(-4,-1)$ n) $(-5,-1)$ o) $(-6,-1)$ p) $(-7,-1)$ q) ( $-7,0$ ) r) ( $-7,2$ ) s) ( $-7,3$ ) t) $(-8,2)$ u) $(-8,3)$

The image is a jersey.
2. a) Next reflect this image by placing a mirror on the $y$ axis. What are the new coordinates? Label each point a $1, \mathrm{~b} 1$ etc and write down the new coordinates below:
a1) $(8,3) \mathrm{b} 1)(8,4) \mathrm{c} 1)(7,5) \mathrm{d} 1)(6,4) \mathrm{e} 1)(5,4) \mathrm{f} 1)(4,5) \mathrm{g} 1)(3,4) \mathrm{h} 1)(3,2) \mathrm{i} 1)(4,2) \mathrm{j} 1)(4,3) \mathrm{k} 1)(4,1)$
(1) $(4,0) \mathrm{m} 1)(4,-1) \mathrm{n} 1)(5,-1) \mathrm{o} 1)(6,-1) \mathrm{p} 1)(7,-1) \mathrm{q} 1)(7,0) \mathrm{r} 1)(7,2) \mathrm{s} 1)(7,3) \mathrm{t})(8,2) \mathrm{u} 1)(8,3)$
b) Translate this image 8 squares down and 8 squares to the left. Label each new point a2, b2 etc and write the new coordinates below:
a2) $(-1,-4)$ b2) $(-1,3)$ c2) $(-2,-2)$ d2 $(-3,-3)$ e2) $(-4,-3)$ f2) $(-5,-2) \mathrm{g} 2)(-6,-3) \mathrm{h} 2)(-6,-5) \mathrm{i} 2)(-5,-5)$ j2) $(-5,-4)$ k2) $(-5,-6)(2)(-5,-7) \mathrm{m} 2)(-5,-8) \mathrm{n} 2)(-4,-8)$ o2) $(-3,-8) \mathrm{p} 2)(-2,-8)$ q2) $(-2,-7) \mathrm{r} 2)(-2,-$ 5) s2) $(-2,-4)$ t2) $(-1,-5)$ u2 $(-1,-4)$
3. Using the shape labelled $\mathrm{a} 1, \mathrm{~b} 1$ etc, rotate this image 180 degrees around point (4,-1).
a3) $(-1,-5)$ b3) $(0,-6)$, c3) $(1,-7) d 3)(2,-6)$ e3) $(3,-6) f 3)(4,-7) \mathrm{g} 3)(5,-6) \mathrm{h} 3)(6,-5) \mathrm{i} 3)(5,-4) \mathrm{j} 3)(4,-$ 5) k3) $(4,-4)(3)(4,-3) \mathrm{m} 3)(4,-2) \mathrm{n} 3)(4,-1)$ o3) $(3,-1) \mathrm{p} 3)(2,-1) \mathrm{q} 3)(1,-1) \mathrm{r} 3)(1,-2) \mathrm{s} 3)(1,-3) \mathrm{t} 3)$ $(1,-4)$ u3) $(1,-5)$ v3) $(0,-4)$

## Helicopter Coordinates

## Amazing Fact

In 1861, the word 'helicopter' was first used for a machine which did not actually lift off the ground.

## Challenge

Using the four-quadrant grid on the next page, carefully plot these points. Then, use a ruler to draw a line between each pair of coordinates. If you have done this correctly, it should reveal a special shape!

## Coordinates

1. $(-7,-6)(-7,-7)$
2. $(5,3)(3,5)$
3. $(-6,6)(-1,6)$
4. $(-9,3)(-3,-4)$
5. $(-7,-7)(4,-7)$
6. $(3,5)(1,5)$
7. $(-1,6)(-1,5)$
8. $(-3,-4)(-4,-6)$
9. $(4,-7)(5,-6)$
10. $(1,5)(1,6)$
11. $(-1,5)(1,5)$
12. $(-4,-6)(-7,-6)$
13. $(5,-6)(5,-5)$
14. $(1,6)(6,6)$
15. $(1,5)(-3,5)$
16. $(-9,3)(-2,-4)$
17. $(5,-5)(3,-6)$
18. $(6,6)(6,7)$
19. $(-3,5)(-4,3)$
20. $(-2,-4)(-3,-6)$
21. $(3,-6)(2,-4)$
22. $(6,7)(1,7)$
23. $(-4,3)(-8,5)$
24. $(-3,-6)(2,-6)$
25. $(2,-4)(6,-2)$
26. $(1,7)(1,8)$
27. $(-8,5)(-7,6)$
28. $(2,-6)(1,-4)$
29. $(6,-2)(2,1)$
30. $(1,8)(-1,8)$
31. $(-7,6)(-8,7)$
32. $(1,-4)(-2,-4)$
33. $(2,1)(5,3)$
34. $(-1,8)(-1,7)$
35. $(-8,7)(-10,3)$
36. $(5,3)(6,2)$
37. $(-1,7)(-6,7)$
38. $(-10,3)(-10,2)$
39. $(6,2)(6,-2)$
40. $(-6,7)(-6,6)$
41. $(-10,2)(-9,3)$

You could also try to find out:

- what helicopters are used for;
- who built the first flying helicopter and when;
- how helicopters work.



## Helicopter Coordinates




Helicopter Coordinates Answers


## An Amazing Fact a Day

## Shark Infested Co-ordinates

## Amazing Fact

An average of 2 people each year are killed in the USA when the vending machines they are shaking fall over on top of them! In America, this means that vending machines are more dangerous than sharks.

## Challenge

Mark the co-ordinates on the grid and then join the dots up to make a shape. What is it?
You could also try to find out:

- how much a vending machine weighs;
- what other unlikely causes of death exist;
- which is the most dangerous form of transport;
- which is the most dangerous country to visit.


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## An Amazing Fact a Day

## Shark Infested Co-ordinates

Mark the co-ordinates below with $a \times$ and then join the points to see what is lurking there.

| 14 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| -12 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $-13$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | -1 | -12 | -11 | 10 |  | 7 | 7-6 | -5 | -4 | -3 |  |  |  | 12 | 3 | 4 | 5 | 6 | 7 | 8 | 910 | 101 | 1112 | 213 |

## Co-ordinates

a. $(14,5)$
b. $(13,2)$
c. $(12,0)$
d. $(13,-3)$
e. $(10,-1)$
f. $(4,-2)$
g. $(3,-4)$
h. $(1,-3)$
i. $(-4,-3)$
j. $(-6,-2)$
k. $(-6,-7)$
l. $(-8,-5)$
m. $(-9,-2)$
n. $(-13,-1)$
o. $(-11,0)$
p. $(-14,1)$
q. $(-12,2)$
r. $(-9,3)$
s. $(-4,3)$
t. $(-2,7)$
u. $(0,3)$
v. $(3,2)$
w. $(9,1)$
x. $(14,5)$

## Shark Infested Co-ordinates Answers



