










Preparing for Turtle Logo: Right 90 Left 90

<p>Aim: Understand what algorithms are how they are implemented as programs on digital devices; and that programs execute by following precise and ambiguous instructions.</p> <p>Create and debug simple programs.</p> <p>Use logical reasoning to predict the behaviour of simple programs.</p>	<p>Success Criteria: I can give clear accurate instructions. I can give instructions in order. I can write an algorithm. I can check an algorithm. I can turn right 90 and left 90.</p>	<p>Resources: Lesson Pack.</p> <p>Hall or space large enough for children to move around freely.</p> <p>Cones or similar to mark points.</p> <p>Small whiteboards and pens.</p>
<p>This unit prepares children for using Turtle Logo on screen, but links well to shape and direction in Maths.</p> <p>I can give and follow an algorithm using the commands right 90 and left 90.</p>	<p>Key/New Words: Forward, Left, Right, Move, Turn, Right 90, Left 90.</p>	<p>Preparation: Activity Sheet - 1 per pair.</p>

Prior Learning: It will be helpful if children understand that a right angle is 90°.

Learning Sequence

	<p>Squares and Rectangles: By walking forward a number of steps and by making quarter and half turns, can you work in pairs to walk squares and rectangles? Children give each other instructions to walk squares and rectangles using the commands, forward 4 (number of steps) and quarter turn to the right or left. (Move on quickly if children can achieve this task easily)</p>	
	<p>Right 90 and Left 90: Explain to children that they can use right 90 and left 90 to represent a quarter turn. Give children instructions using forward, right 90 and left 90 to walk squares and rectangles.</p>	
	<p>Use Turtle Logo Commands: Children give each other instructions to walk squares and rectangles using the commands, forward 4 (number of steps), right 90 or left 90. Look for children making the same size steps and turning 90° accurately. They can use cones to mark the corners of the shapes.</p> <p>Right 90 and Left 90: Children work through the Activity Sheet, which gives them algorithms to follow. Children record their answers and pairs can check answers with other pairs. Remind the children to make the same size steps and make accurate quarter turns. They could use cones to mark the corners of the shapes. Children use the appropriate Activity Sheet to follow the algorithms and record the shape 'drawn'.</p> <p> Children also write their own algorithms.</p>	
	<p>Complete This Shape: Children complete given shape.</p>	

Taskit
Turnit: Children can make algorithms for different squares and rectangles using "right 90" or "left 90".



Computing

Preparing for Turtle Logo

Right 90 and Left 90



Aim

- I can give and follow an algorithm to turn right 90 and left 90.

Success Criteria

- I can give clear accurate instructions.
- I can give instructions in order.
- I can write an algorithm.
- I can check an algorithm.
- I can move forward a number of steps.
- I can make half and quarter turns.

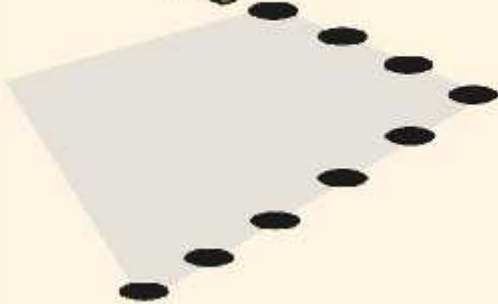
Squares and Rectangles



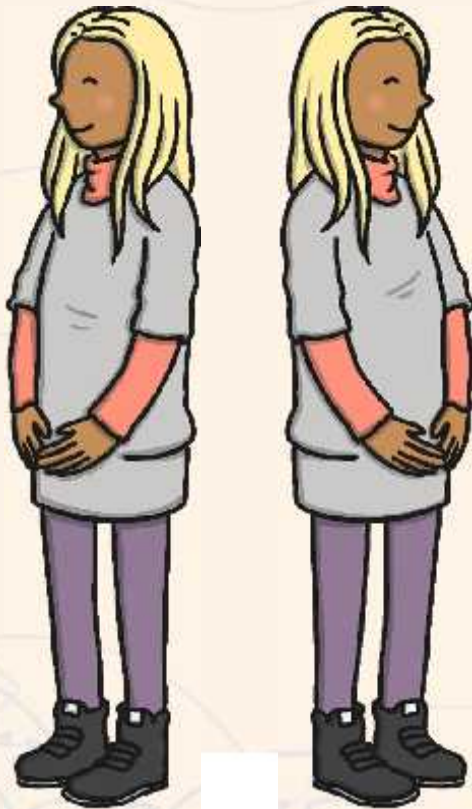
Forward 3
Right 90
Forward 5



By walking forward a number of steps, and making quarter and half turns, can you work in pairs to walk squares and rectangles?



Right 90 and Left 90



Right 90

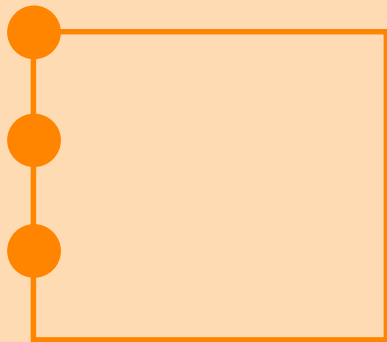


Use Turtle Logo Commands



Give your partner instructions to walk a square using the following Turtle Logo commands:

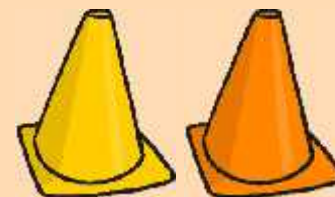
Forward
Right 90 or Left 90



Take care to walk the same size steps and make accurate turns.



Use cones to mark the corners of your shapes if it helps.



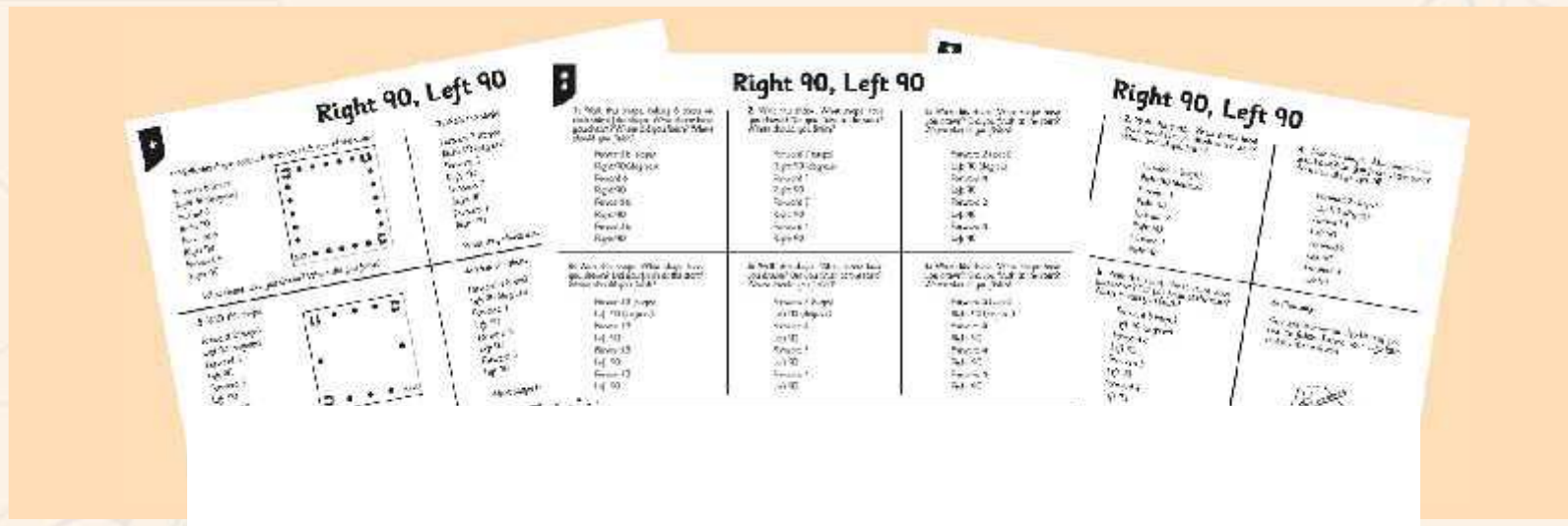
Right 90 and Left 90



Work through the activities. Record your findings as you go.

Try to make your steps the same each time.

Try to make your 90 degree turns accurate.



Complete This Shape



Forward 2

Right 90

Forward 4

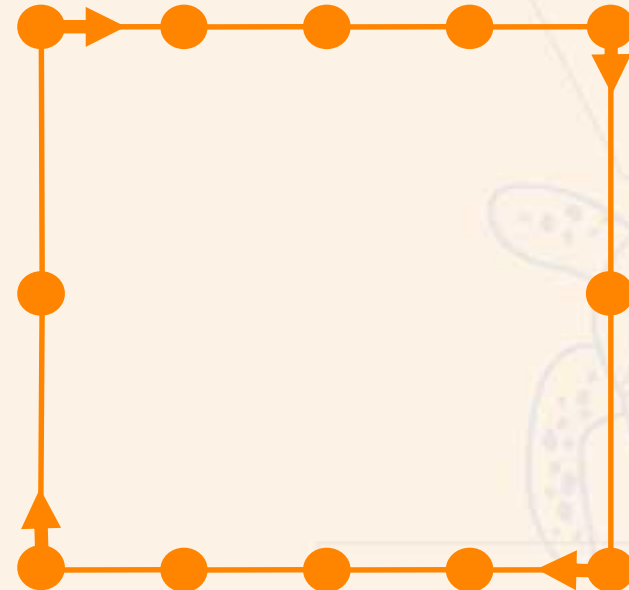
Right 90

Forward 2

Right 90

Forward 4

(Right 90)



This step isn't needed but it is good to turn to face the way that you started.

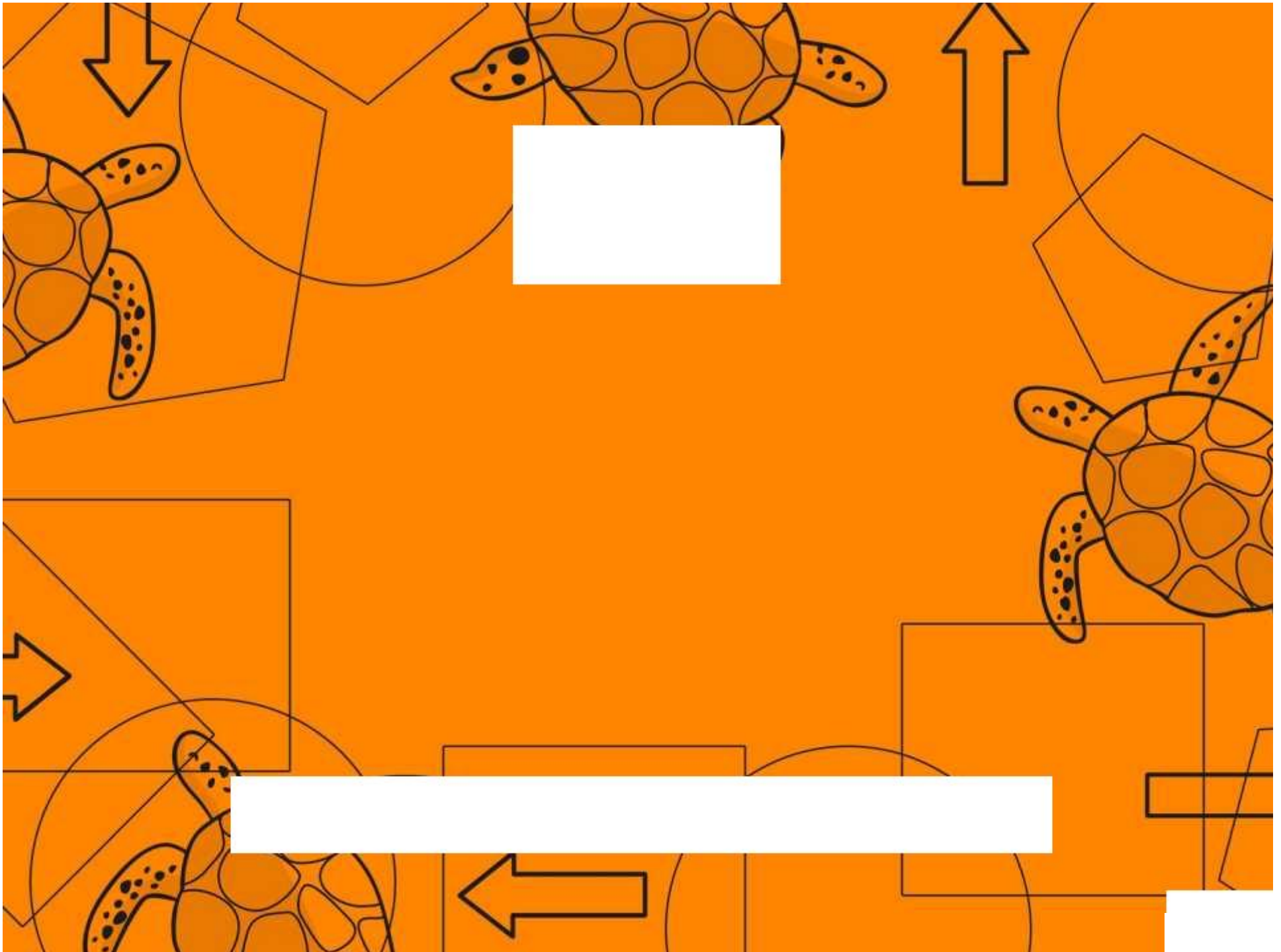
Aim



- I can give and follow an algorithm to turn right 90 and left 90.

Success Criteria

- I can give clear accurate instructions.
- I can give instructions in order.
- I can write an algorithm.
- I can check an algorithm.
- I can move forward a number of steps.
- I can make half and quarter turns.



Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		

Preparing for Turtle Logo | Right 90, Left 90

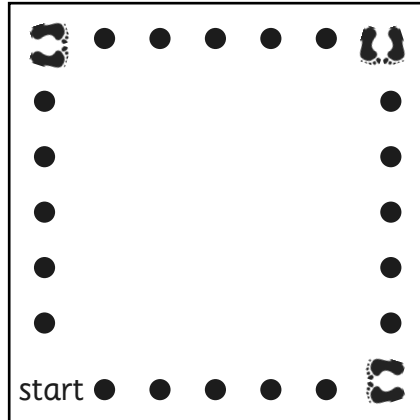
I can give and follow an algorithm using the commands right 90 and left 90.		
I can give clear accurate instructions.		
I can give instructions in order.		
I can write an algorithm.		
I can check an algorithm.		
I can turn right 90 and left 90.		



Right 90, Left 90

1: Walk this shape, taking 6 steps on each side of the shape.

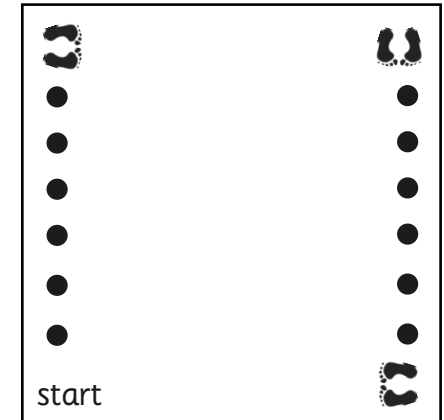
- Forward 6 (steps)
- Right 90 (degrees)
- Forward 6
- Right 90
- Forward 6
- Right 90
- Forward 6
- Right 90



What shape have you drawn? Where did you finish?

2: Walk this shape.

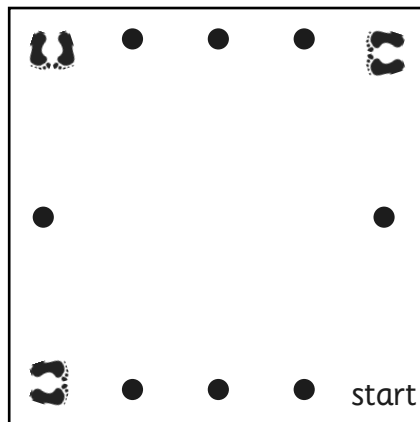
- Forward 7 (steps)
- Right 90 (degrees)
- Forward 1
- Right 90
- Forward 7
- Right 90
- Forward 1
- Right 90



What shape have you drawn? Where did you finish?

3: Walk this shape.

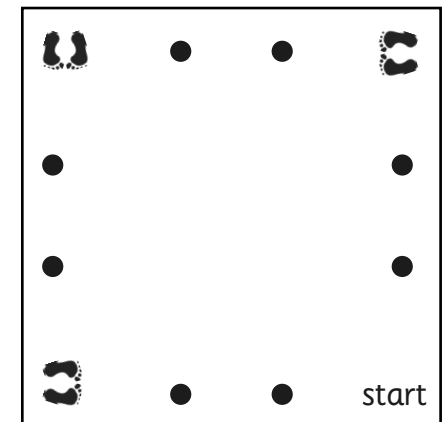
- Forward 2 (steps)
- Left 90 (degrees)
- Forward 4
- Left 90
- Forward 2
- Left 90
- Forward 4
- Left 90



What shape have you drawn? Where did you finish?

4: Walk this shape.

- Forward 3 (steps)
- Left 90 (degrees)
- Forward 3
- Left 90
- Forward 3
- Left 90
- Forward 3
- Left 90



What shape have you drawn? Where did you finish?



Right 90, Left 90

1: Walk this shape, taking 6 steps on each side of the shape. What shape have you drawn? Where did you finish?

Forward 6 (steps)
Right 90 (degrees)
Forward 6
Right 90
Forward 6
Right 90
Forward 6
Right 90

2: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 7 (steps)
Right 90 (degrees)
Forward 1
Right 90
Forward 7
Right 90
Forward 1
Right 90

3: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 2 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 2
Left 90
Forward 4
Left 90

4: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 3 (steps)
Left 90 (degrees)
Forward 3
Left 90
Forward 3
Left 90
Forward 3
Left 90

5: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 3 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 3
Left 90
Forward 4
Left 90

6: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 4 (steps)
Right 90 (degrees)
Forward 4
Right 90
Forward 4
Right 90
Forward 4
Right 90





Right 90, Left 90

1: Walk this shape, taking 6 steps on each side of the shape. What shape have you drawn? Where did you finish?

Forward 6 (steps)
Right 90 (degrees)
Forward 6
Right 90
Forward 6
Right 90
Forward 6
Right 90

2: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 7 (steps)
Right 90 (degrees)
Forward 1
Right 90
Forward 7
Right 90
Forward 1
Right 90

3: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 2 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 2
Left 90
Forward 4
Left 90

4: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 3 (steps)
Left 90 (degrees)
Forward 3
Left 90
Forward 3
Left 90
Forward 3
Left 90

5: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Forward 3 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 3
Left 90
Forward 4
Left 90

6: Challenge

Give your partner an algorithm of your own to follow. Record your algorithm and the shape drawn.



Right 90, Left 90 Answers

1: Walk this shape, taking 6 steps on each side of the shape. What shape have you drawn? Where did you finish?

Square

Forward 6 (steps)
Right 90 (degrees)
Forward 6
Right 90
Forward 6
Right 90
Forward 6
Right 90

2: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Rectangle

Forward 7 (steps)
Right 90 (degrees)
Forward 1
Right 90
Forward 7
Right 90
Forward 1
Right 90

3: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Rectangle

Forward 2 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 2
Left 90
Forward 4
Left 90

4: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Square

Forward 3 (steps)
Left 90 (degrees)
Forward 3
Left 90
Forward 3
Left 90
Forward 3
Left 90

5: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Rectangle

Forward 3 (steps)
Left 90 (degrees)
Forward 4
Left 90
Forward 3
Left 90
Forward 4
Left 90

6: Walk this shape. What shape have you drawn? Did you finish at the start? Where should you finish?

Square

Forward 4 (steps)
Right 90 (degrees)
Forward 4
Right 90
Forward 4
Right 90
Forward 4
Right 90

Preparing for Turtle Logo



I can turn
right 90 and left 90.

Preparing for Turtle Logo



I can turn
right 90 and left 90.

Preparing for Turtle Logo



I can turn
right 90 and left 90.