LO Write a program that will draw a
tree that looks different every time

code-it.co.uk

Y=180

Y= 90

Y=0

Y=-90

Y=-180
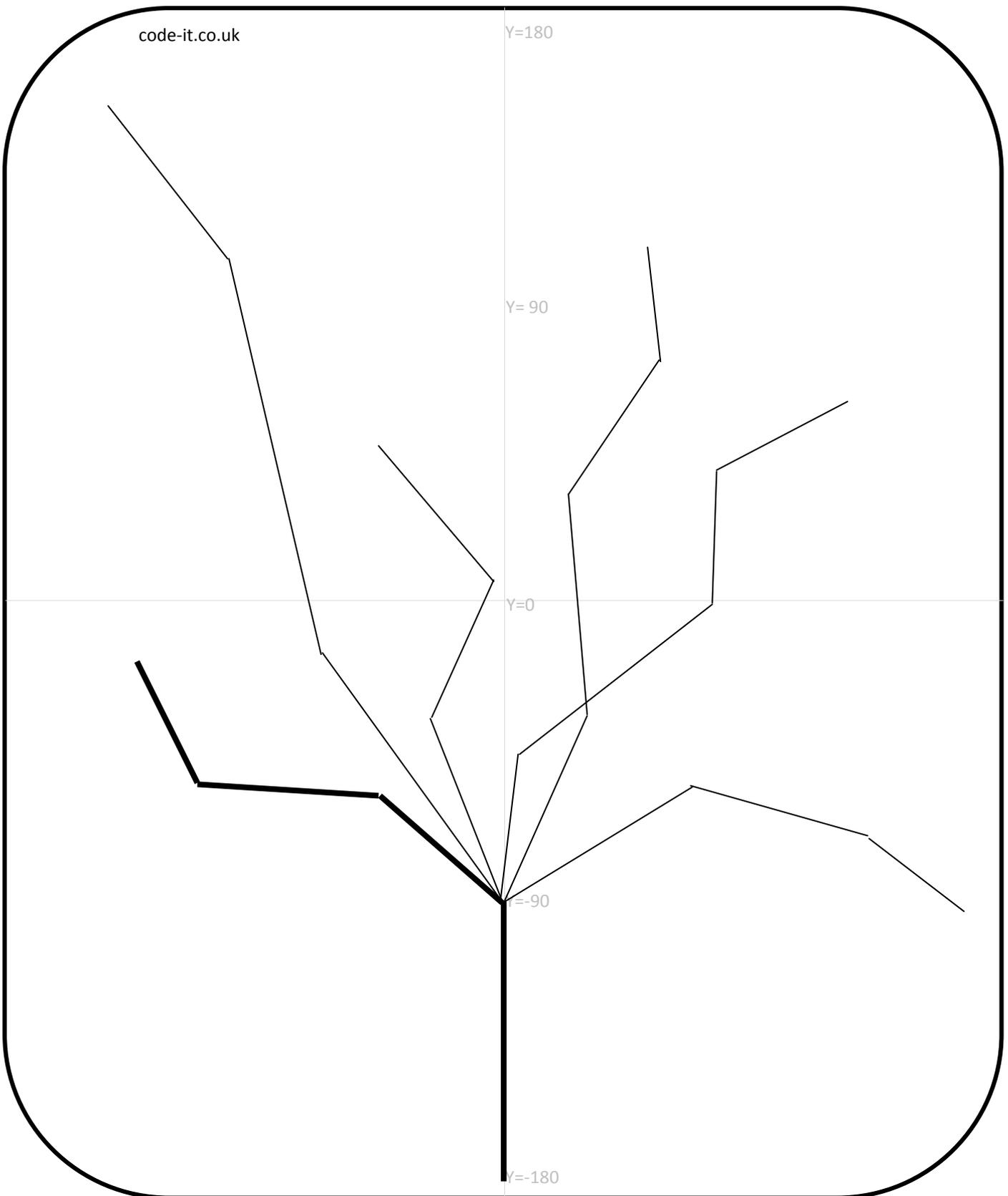
Label the parts of the tree. Where on the Y axis does your trunk start? Where
on the Y axis does your trunk finish? Where on the Y axis does the bold branch
begin? What angle will you have to turn to start the branch?

LO Use the blocks to write Trunk and Bold Branch Algorithms

TRUNK

BOLD BRANCH (one)

Use these instructions to code the bold branch

PENUP or PU	Takes pen up off screen stops drawing
PENDOWN or PD	Puts pen on screen starts drawing
CS or CLEARSCREEN	Clears screen and sends turtle home facing 0 degrees
SETPOS [0 100]	Sends turtle to these coordinates X axis 0 Y axis 100 see next sheet for more examples
SETHEADING 0	Sets heading direction turtle is facing to up see next sheet for

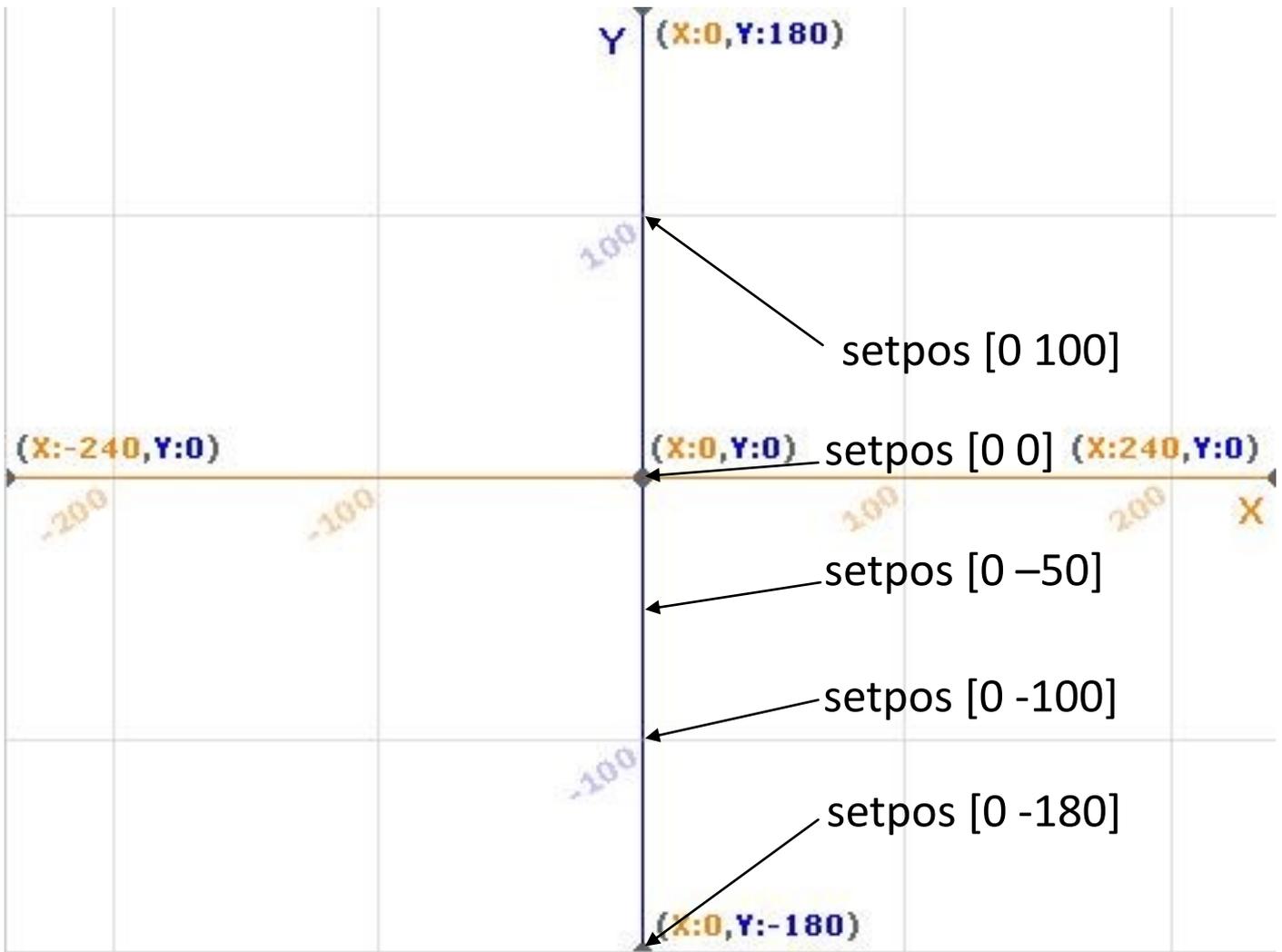**Use these instructions to code the trunk**

FORWARD 20 or FD 20	Forward 20
BACK 70 or BK 70	Back 70
RIGHT 90 or RT 90	Right 90 degrees
LEFT 45 or LT 45	Left 45 degrees
PENUP or PU	Takes pen up off screen stops drawing
PENDOWN or PD	Puts pen on screen starts drawing
CS or CLEARSCREEN	Clears screen and sends turtle home facing 0 degrees
SETHEADING 0	Sets heading direction turtle is facing to up see next sheet for

Decomposition

Decomposition is where you break a problem up into smaller parts and solve the parts separately. You have already decomposed your tree into parts. Why not work on solving the easiest part first? Which part do you think might be easiest?

Y (X:0,Y:180)

100

setpos [0 100]

(X:-240,Y:0)

(X:0,Y:0) setpos [0 0] (X:240,Y:0)

-200   -100   100   200   X

setpos [0 –50]

setpos [0 -100]

-100

setpos [0 -180]

(X:0,Y:-180)

You can use the Y axis to help you get back to the tree trunk

-20° -10°   0   10   20   30   40   50

180 170 160 150 140 130 120 110 100 90 80 70

SETHEADING -45

or left 45

or LT 45

SETHEADING -90

or left 90

or LT 90