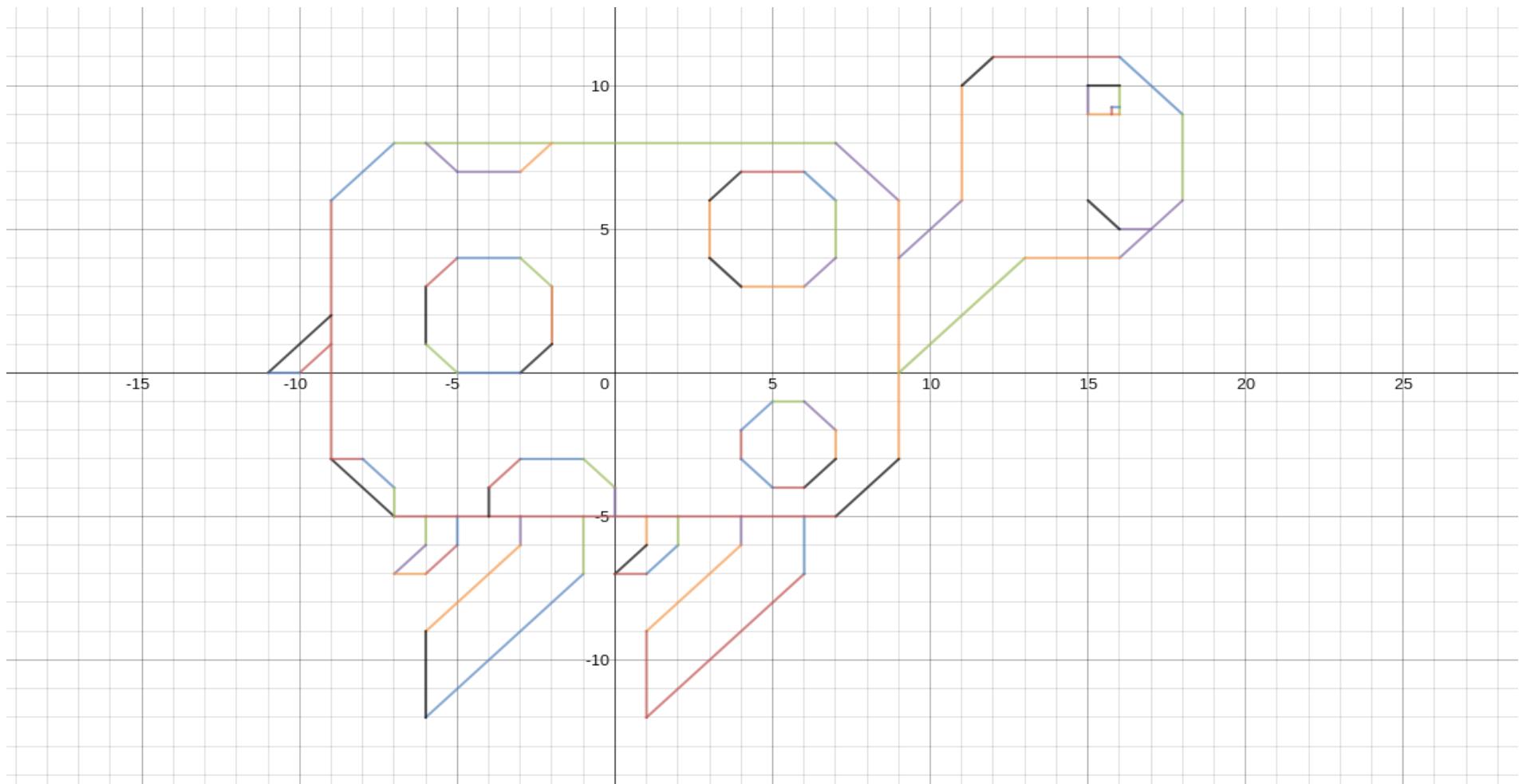


# Linear Art Turtle Design



# How To Make Your Own Linear Art Turtle:

To make your own linear art turtle you will need:

- ~A piece of graph paper
- ~Straight Edge
- ~Writing utensil (preferably pencil)
- ~Crayons/colored pencils.
- ~Construction Paper

First on your graph paper draw a coordinate grid with all four quadrants. After you have done that you will need to graph the following linear equations. Use the straight edge to keep your lines straight!

## Legs

- 1)  $y=x-3$  where  $\{1 \leq x \leq 6\}$   
 $x=6$  where  $\{-7 \leq y \leq -5\}$   
 $x=4$  where  $\{-6 \leq y \leq -5\}$   
 $y=x-10$  where  $\{1 \leq x \leq 4\}$   
 $x=1$  where  $\{-12 \leq y \leq -9\}$

- 2)  $y=x-8$  where  $\{1 \leq x \leq 6\}$   
 $x=2$  where  $\{-6 \leq y \leq -5\}$   
 $x=1$  where  $\{-6 \leq y \leq -5\}$   
 $y=x-7$  where  $\{0 \leq x \leq 1\}$   
 $y=-7$  where  $\{0 \leq x \leq 1\}$

- 3)  $y=x-6$  where  $\{-6 \leq x \leq -1\}$   
 $x=-1$  where  $\{-7 \leq y \leq -5\}$   
 $x=-3$  where  $\{-6 \leq y \leq -5\}$   
 $y=x-3$  where  $\{-6 \leq x \leq -3\}$   
 $x=-6$  where  $\{-12 \leq y \leq -9\}$

- 4)  $y=x-1$  where  $\{-6 \leq x \leq -5\}$   
 $x=-5$  where  $\{-6 \leq y \leq -5\}$   
 $x=-6$  where  $\{-6 \leq y \leq -5$   
 $y=x$  where  $\{-7 \leq y \leq -6\}$

$y = -7$  where  $\{-7 \leq x \leq -6\}$

### Body

$y = -x - 12$  where  $\{-9 \leq x \leq -7\}$   
 $x = 9$  where  $\{-3 \leq y \leq 6\}$   
 $y = x + 15$  where  $\{-9 \leq x \leq -7\}$   
 $y = 8$  where  $\{-7 \leq x \leq 7\}$   
 $y = -x + 15$  where  $\{7 \leq x \leq 9\}$   
 $x = 9$  where  $\{-3 \leq y \leq 6\}$   
 $y = x - 12$  where  $\{7 \leq x \leq 9\}$   
 $y = -5$  where  $\{-7 \leq x \leq 7\}$

### Neck

$y = x - 9$  where  $\{9 \leq x \leq 13\}$   
 $y = x - 5$  where  $\{9 \leq x \leq 11\}$

## Head

$x=11$  where  $\{6 \leq y \leq 10\}$   
 $y=x-1$  where  $\{11 \leq x \leq 12\}$   
 $y=11$  where  $\{12 \leq x \leq 16\}$   
 $y=-x+27$  where  $\{16 \leq x \leq 18\}$   
 $x=18$  where  $\{6 \leq y \leq 9\}$   
 $y=x-12$  where  $\{16 \leq x \leq 18\}$   
 $y=4$  where  $\{13 \leq x \leq 16\}$

## Tail

$y=x+11$  where  $\{-11 \leq x \leq -9\}$   
 $y=x+10$  where  $\{-10 \leq x \leq -9\}$   
 $y=0$  where  $\{-11 \leq x \leq -10\}$

## Eye

x=16        where  $\{9 \leq y \leq 10\}$   
x=15        where  $\{9 \leq y \leq 10\}$   
y=9        where  $\{15 \leq x \leq 16\}$   
y=10        where  $\{15 \leq x \leq 16\}$

## Pupil (In eye; Optional)

x=15.75        where  $\{9 \leq y \leq 9.25\}$   
y=9.25        where  $\{15.75 \leq x \leq 16\}$

## Mouth

y=5        where  $\{16 \leq x \leq 17\}$   
y=-x+21        where  $\{15 \leq x \leq 16\}$

### Octagon 1

$y = -3$       where  $\{-9 \leq x \leq -8\}$   
 $y = -x - 11$       where  $\{-8 \leq x \leq -7\}$   
 $x = -7$       where  $\{-5 \leq y \leq -4\}$

### Octagon 2

$y = -x + 2$       where  $\{-6 \leq x \leq -5\}$   
 $y = 7$       where  $\{-5 \leq x \leq -3\}$   
 $y = x + 10$       where  $\{-3 \leq x \leq -2\}$

### Octagon 3

y=4            where  $\{-5 \leq x \leq -3\}$   
y=-x+1        where  $\{-3 \leq x \leq -2\}$   
x=-2            where  $\{1 \leq y \leq 3\}$   
y=x+3            where  $\{-3 \leq x \leq -2\}$   
y=0            where  $\{-5 \leq x \leq -3\}$   
y=-x-5        where  $\{-6 \leq x \leq -5\}$   
x=-6            where  $\{1 \leq y \leq 6\}$   
y=-6            where  $\{1 \leq y \leq 3\}$   
y=x+9            where  $\{-6 \leq x \leq -5\}$

### Octagon 4

x=-4            where  $\{-5 \leq y \leq -4\}$   
y=x            where  $\{-4 \leq x \leq -3\}$   
y=-3            where  $\{-3 \leq x \leq -1\}$   
y=-x-4        where  $\{-1 \leq x \leq 0\}$   
x=0            where  $\{-5 \leq y \leq -4\}$

## Octagon 5

x=3        where  $\{4 \leq y \leq 6\}$   
y=x+3      where  $\{3 \leq x \leq 4\}$   
y=7        where  $\{4 \leq x \leq 6\}$   
y=-x+13    where  $\{6 \leq x \leq 7\}$   
x=7        where  $\{4 \leq y \leq 6\}$   
y=x-3      where  $\{6 \leq x \leq 7\}$   
y=3        where  $\{4 \leq x \leq 6\}$   
y=-x+7     where  $\{3 \leq x \leq 4\}$

## Octagon 6

x=4        where  $\{-3 \leq y \leq -2\}$   
y=x-6      where  $\{4 \leq x \leq 5\}$   
y=-1       where  $\{5 \leq x \leq 6\}$   
y=-x+5     where  $\{6 \leq x \leq 7\}$   
x=7        where  $\{-3 \leq y \leq -2\}$   
y=x-10     where  $\{6 \leq x \leq 7\}$   
y=-4       where  $\{5 \leq x \leq 6\}$

$$y = -x + 1 \quad \text{where } \{4 \leq x \leq 5\}$$

Now that you have all your lines graphed color the picture to make it look better. Once you have done that you can glue it to a piece of construction paper to make it stand out!