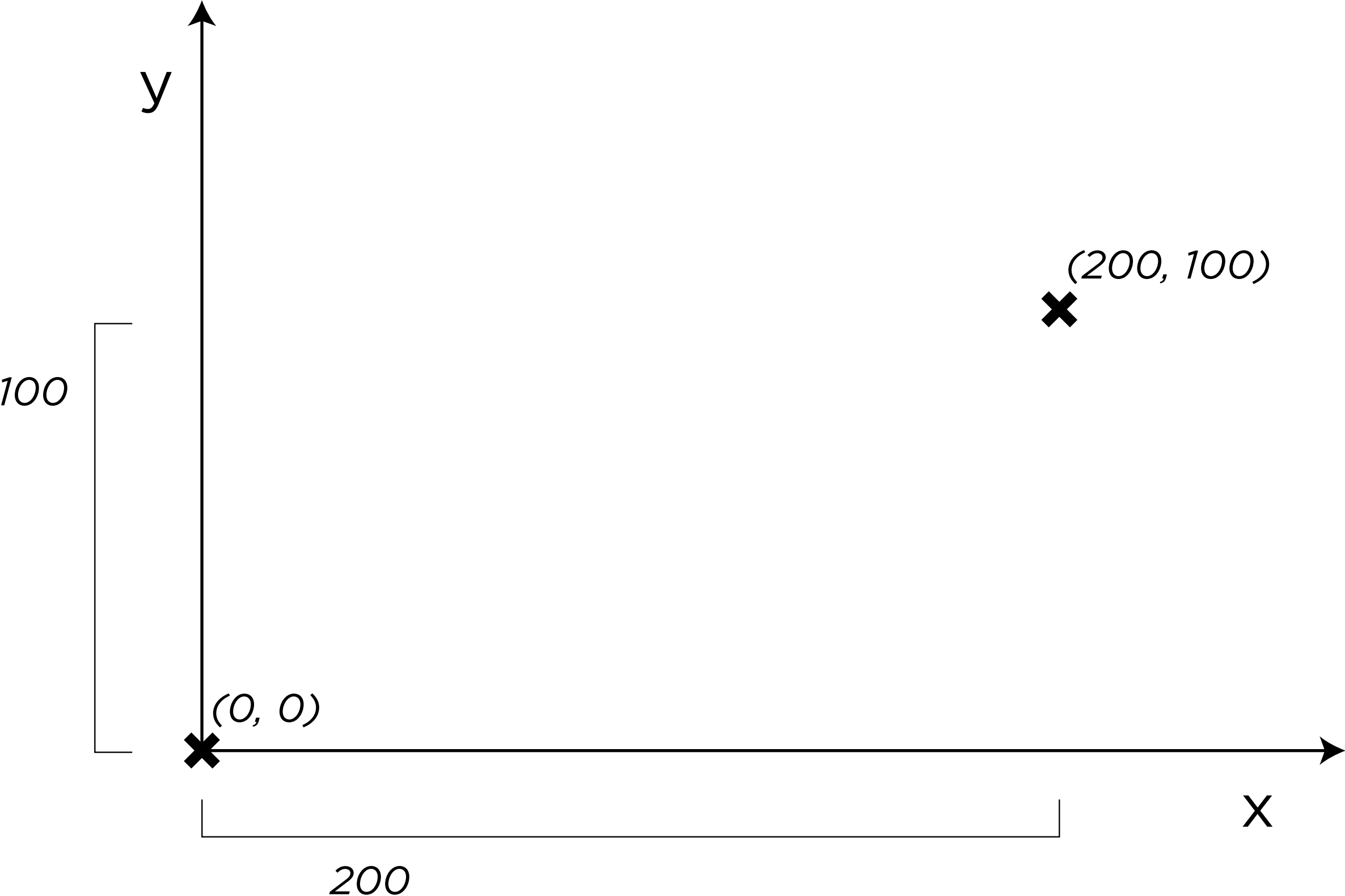
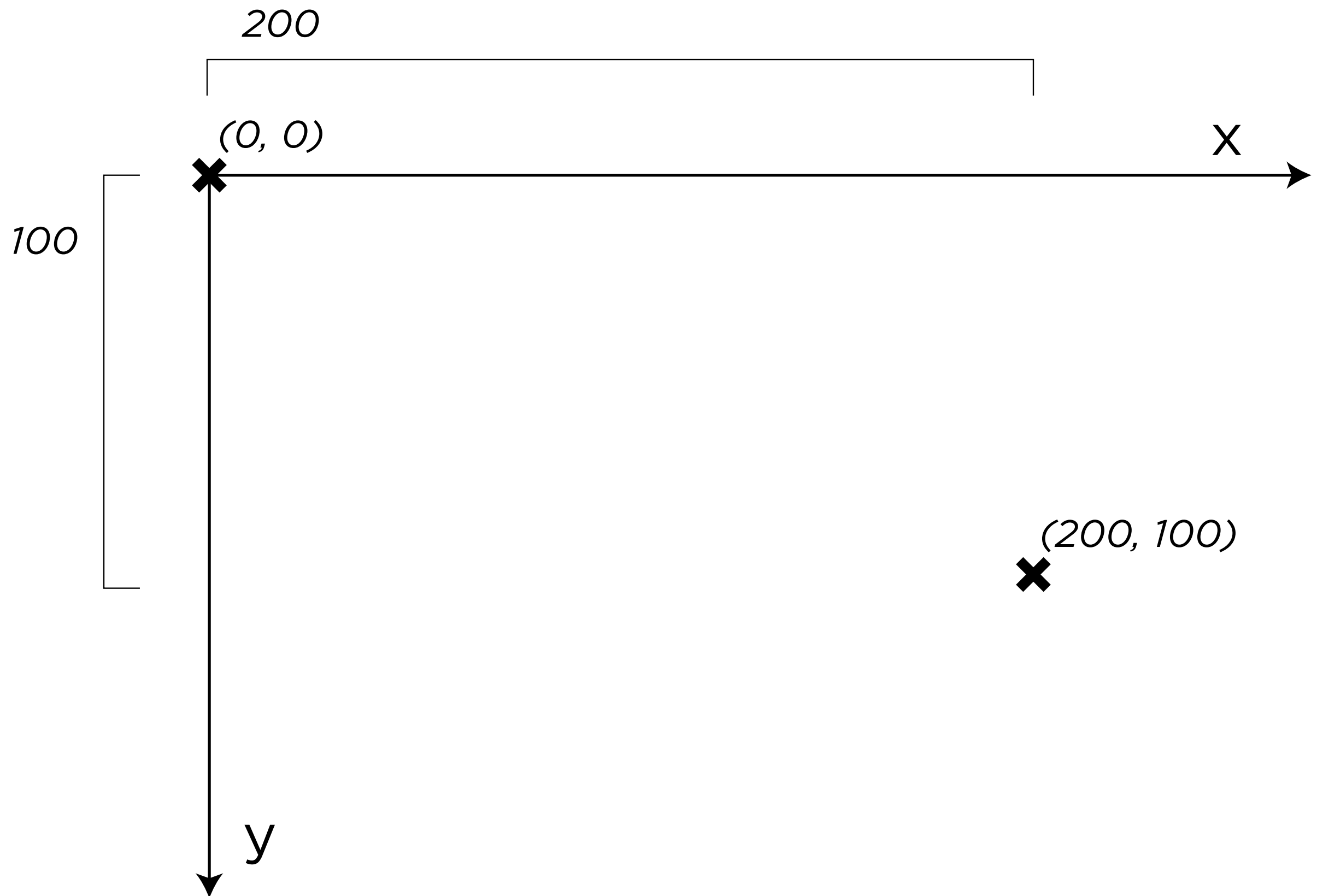


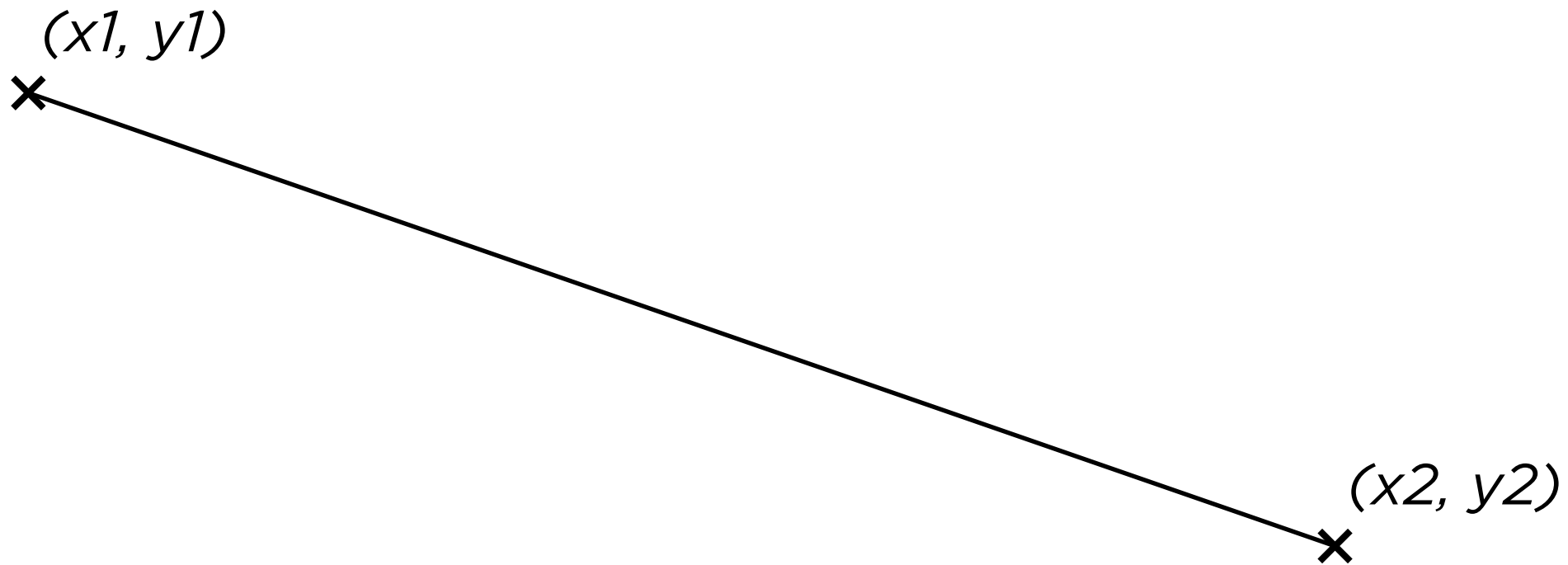
# Gymnasium



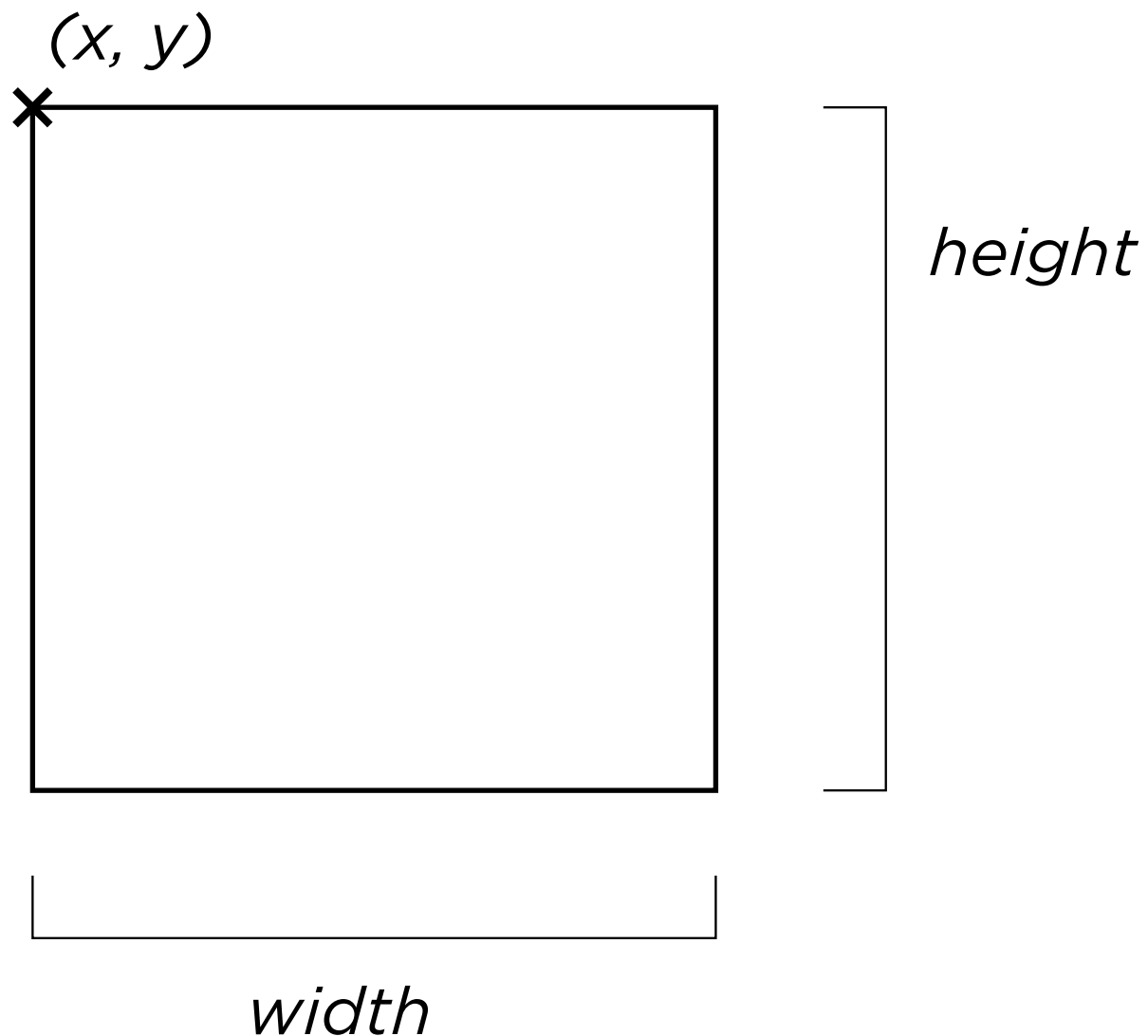
# Processing



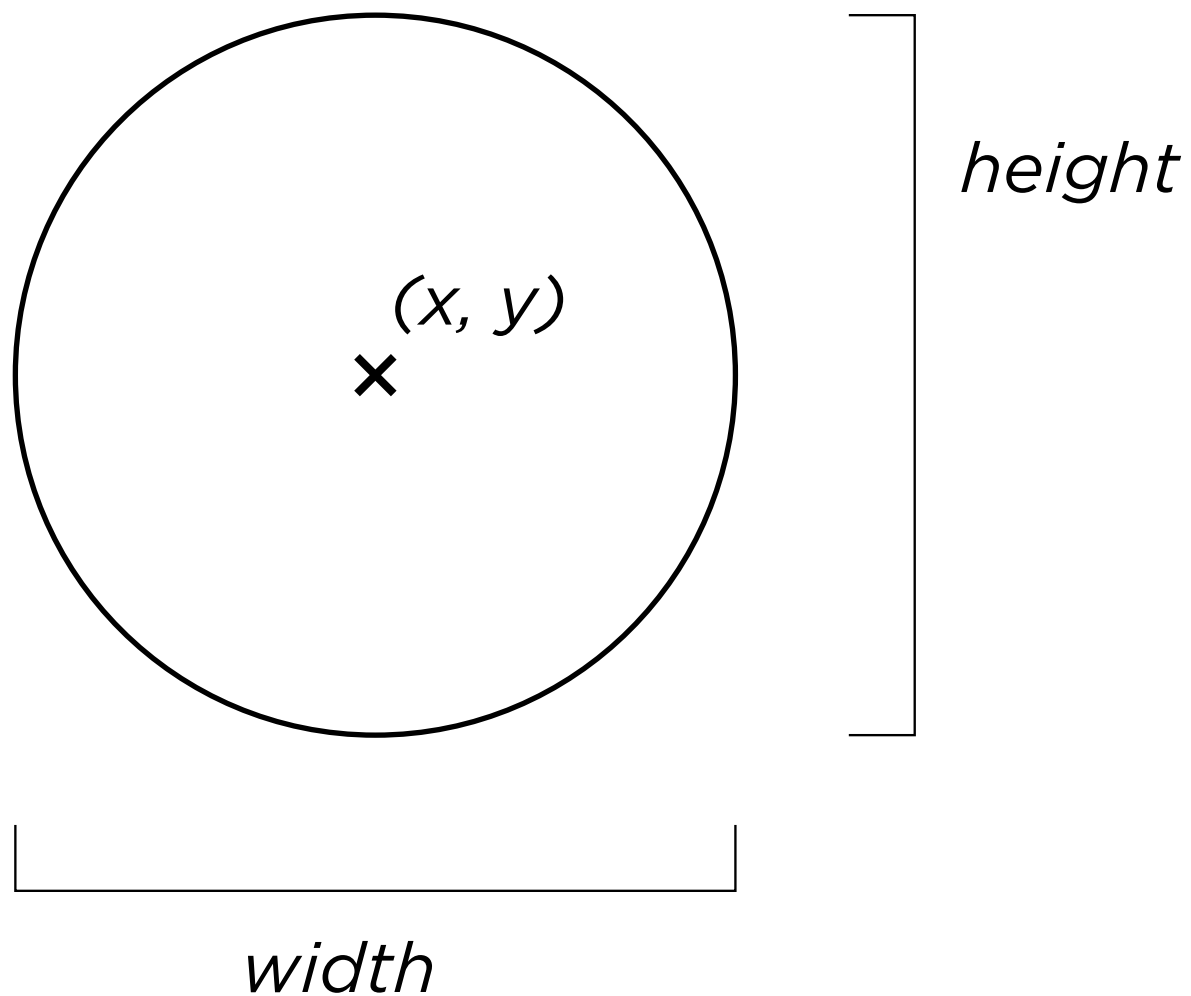
**line**( $x_1$ ,  $y_1$ ,  $x_2$ ,  $y_2$ );



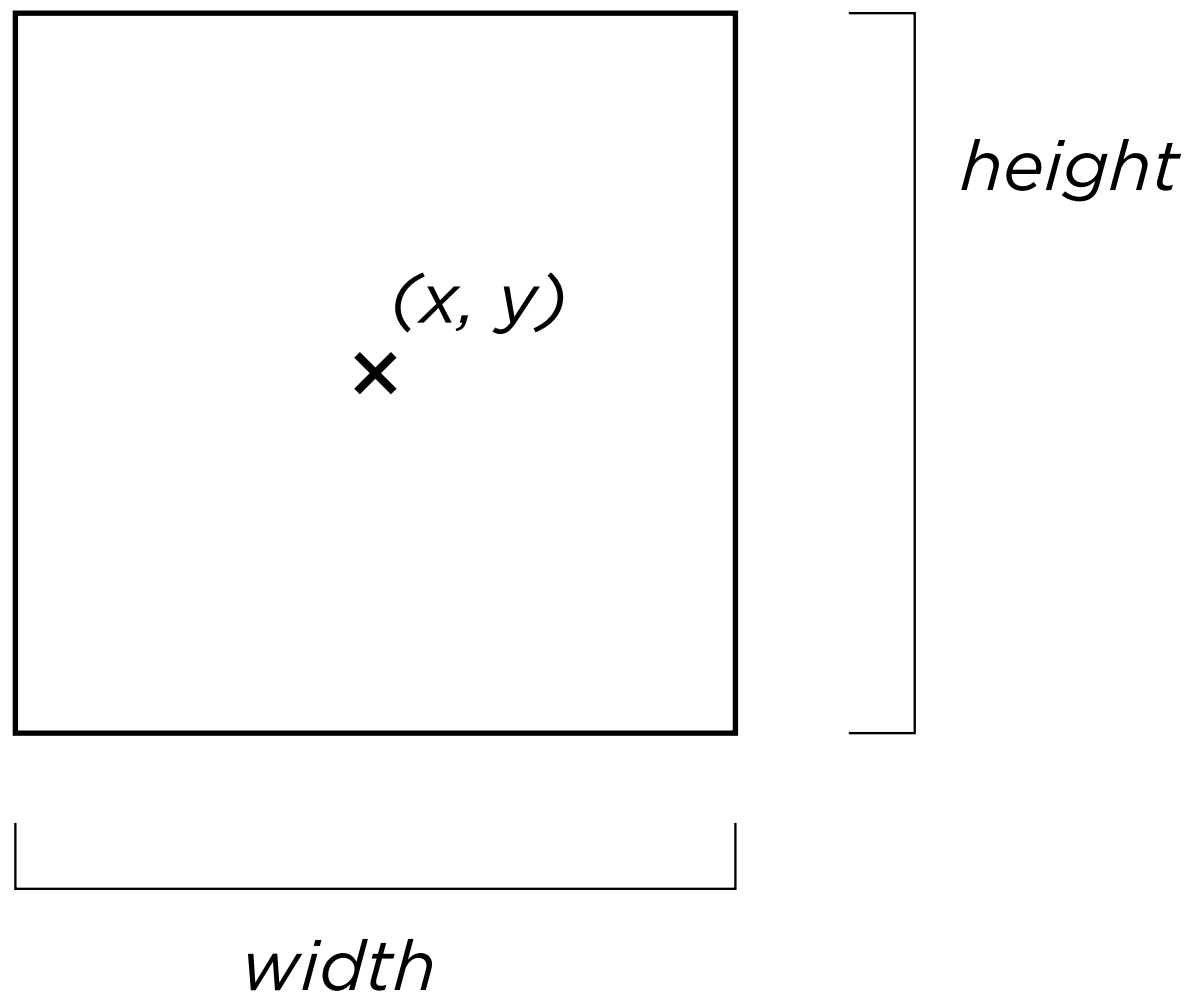
```
rect(x, y, width, height);
```



**ellipse**( $x$ ,  $y$ , width, height);



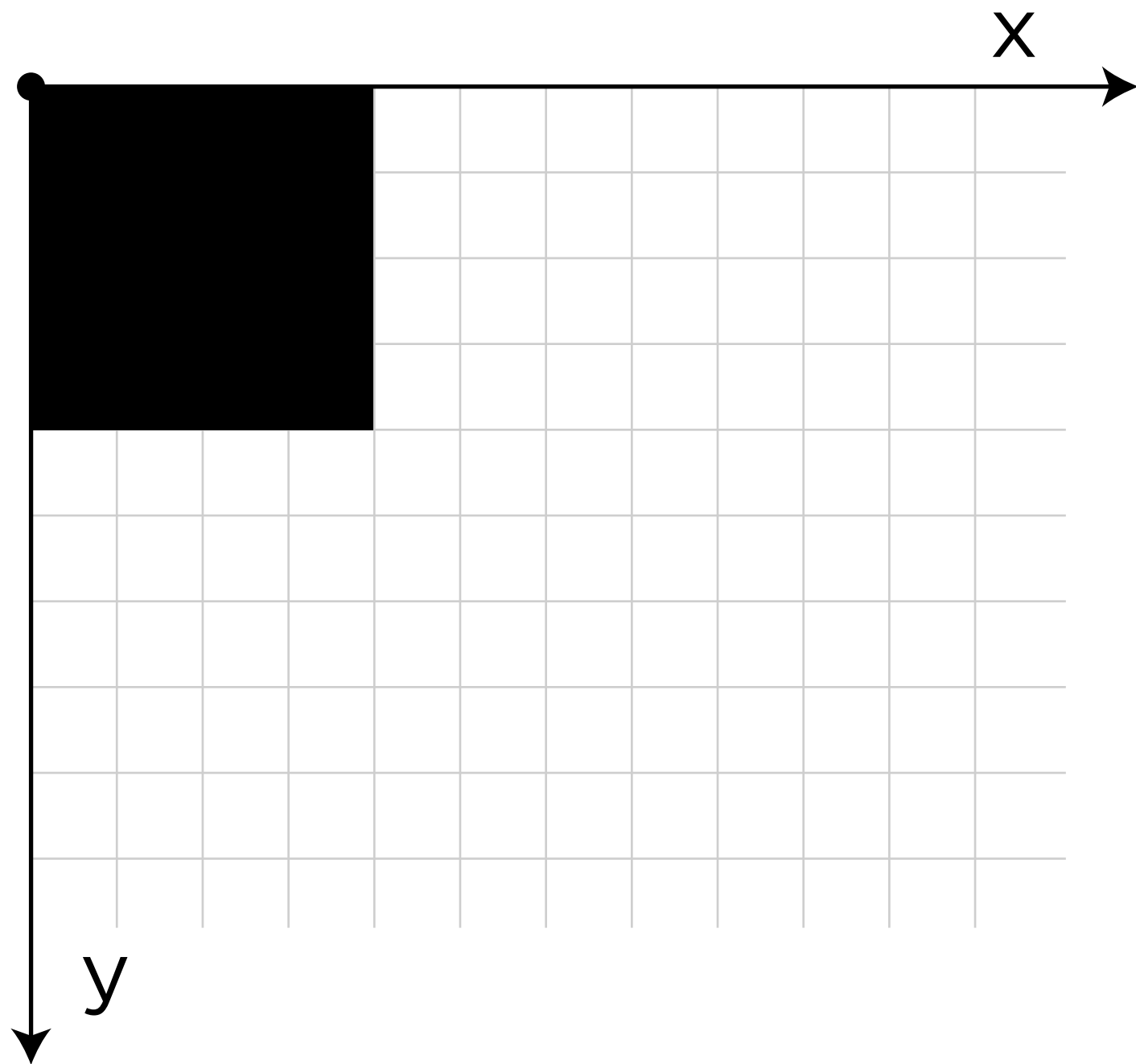
```
rectMode(CENTER);  
rect(x, y, width, height);
```



# Grundtypen

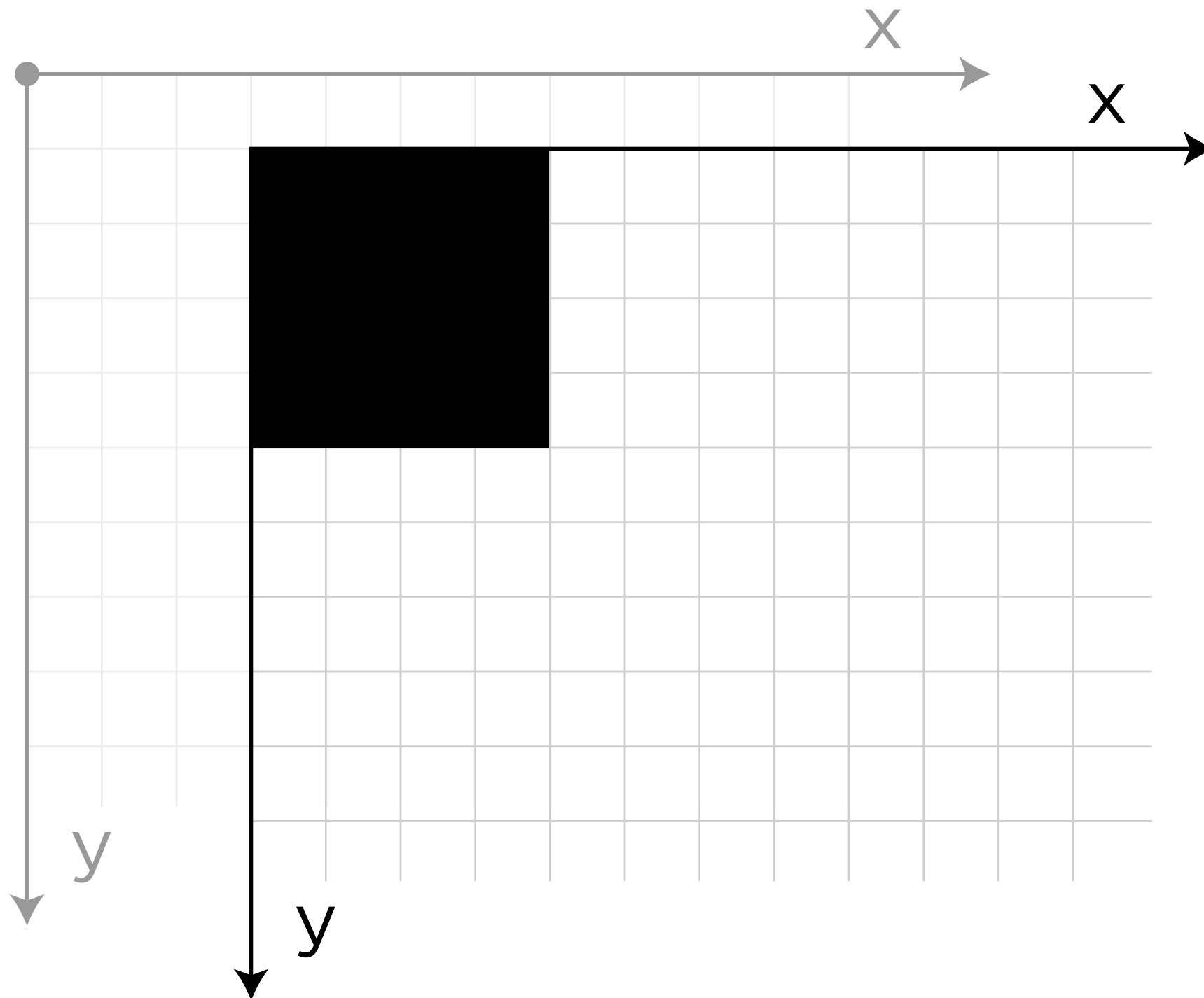
<b>int</b>	Ganze Zahlen <i>-1   -10   1   2   1337</i>
<b>float</b>	Kommazahlen <i>0.1235   0.4   -123.3</i>
<b>boolean</b>	Wahr oder Falsch <i>true   false</i>
<b>String</b>	Zeichenketten <i>“Otl”   “Adrian”   “John”</i>

```
rect(0, 0, 40, 40);
```

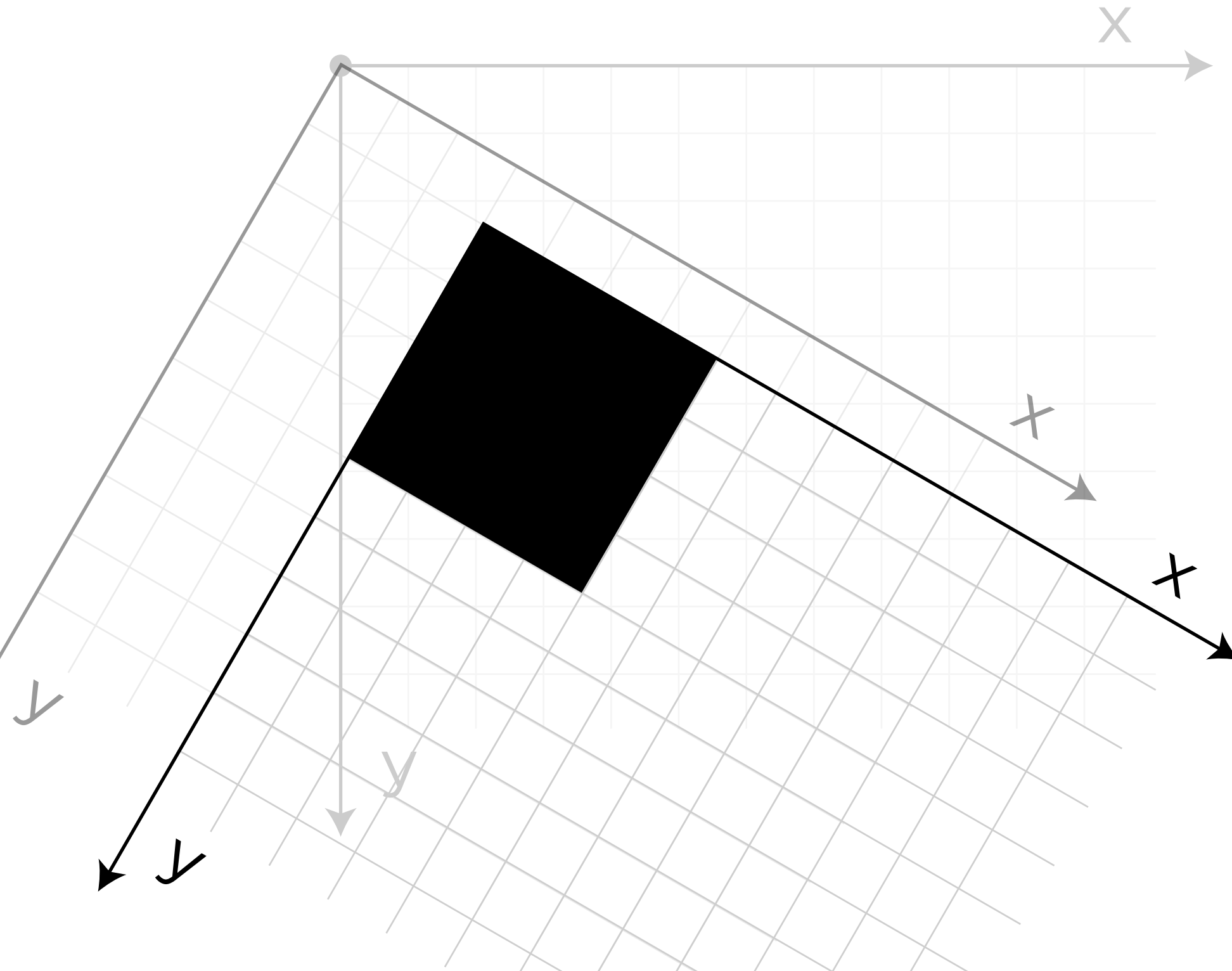




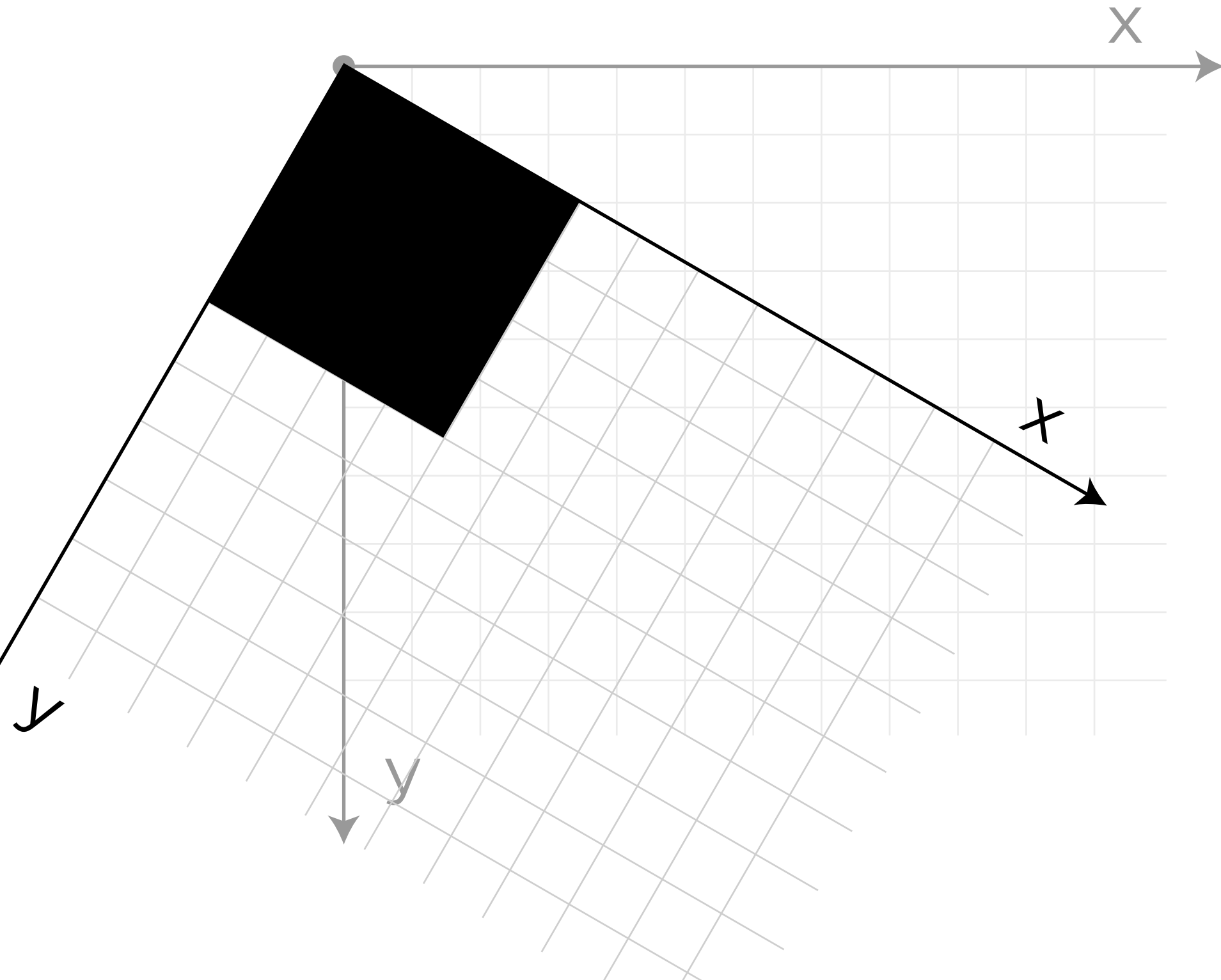
```
translate(30, 10);  
rect(0, 0, 40, 40);
```



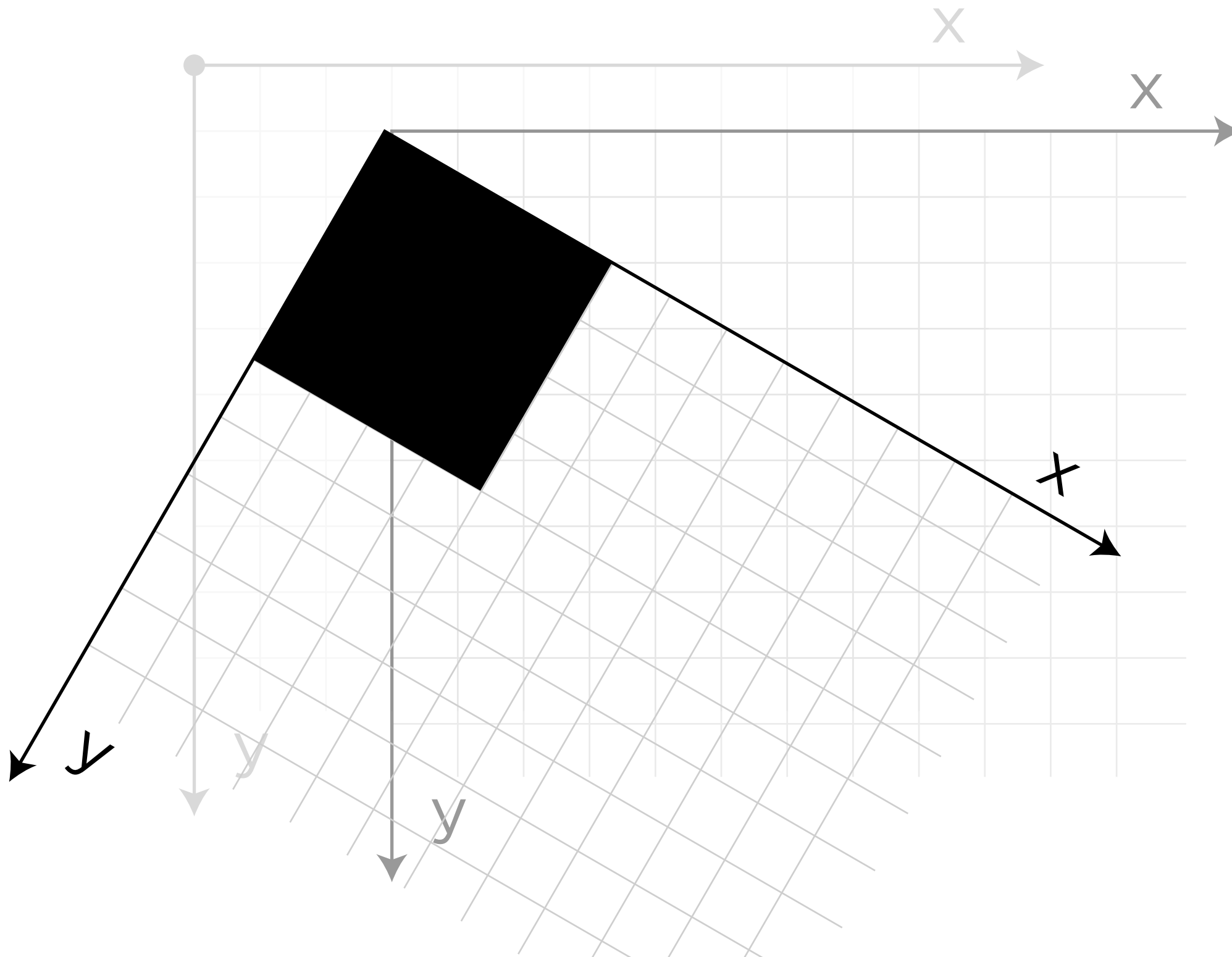
```
rotate( radians(30) );  
translate(30, 10);  
rect(0, 0, 40, 40);
```



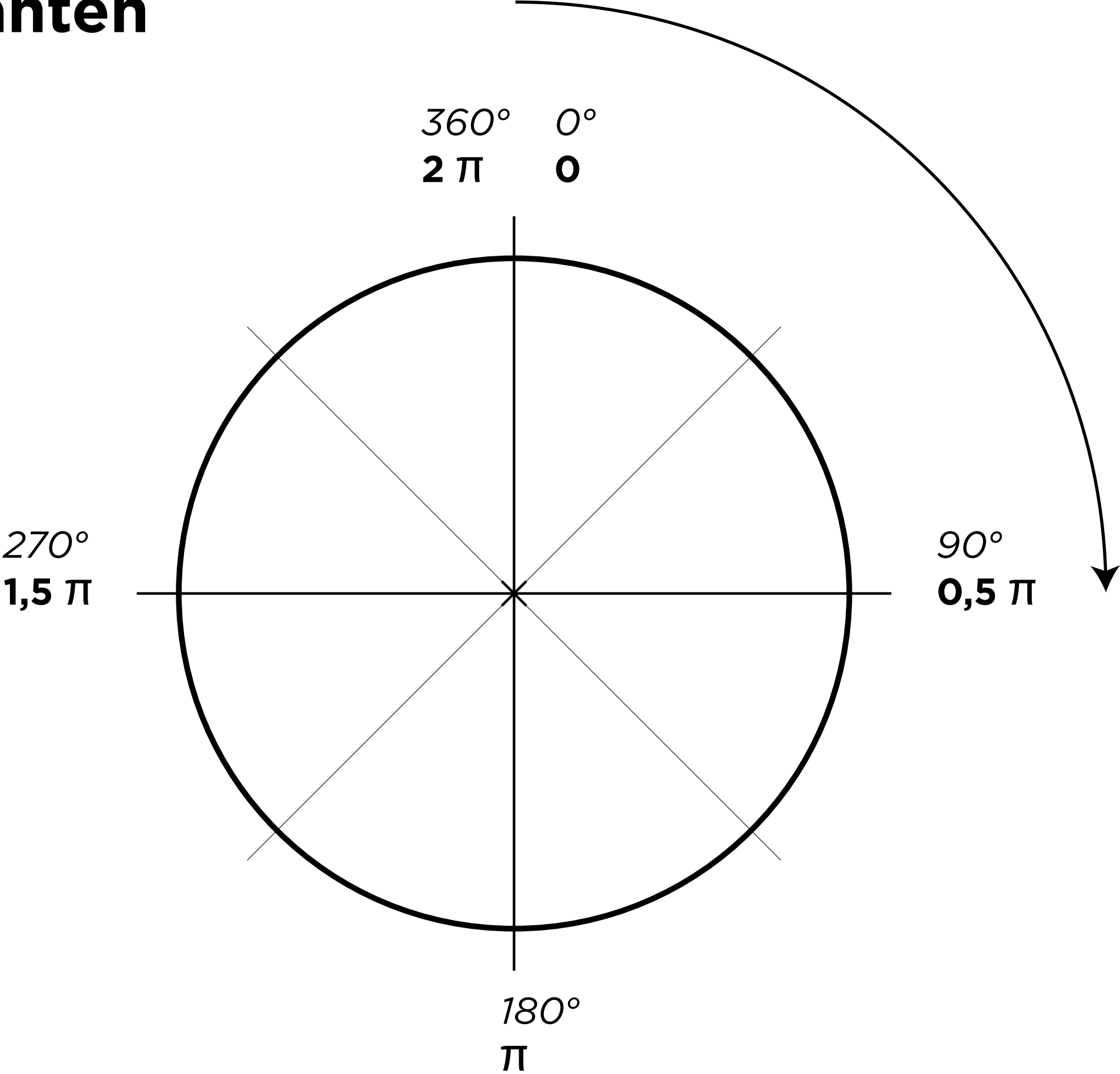
```
rotate( radians(30) );  
rect(0, 0, 40, 40);
```



```
translate(30, 10);  
rotate( radians(30) );  
rect(0, 0, 40, 40);
```

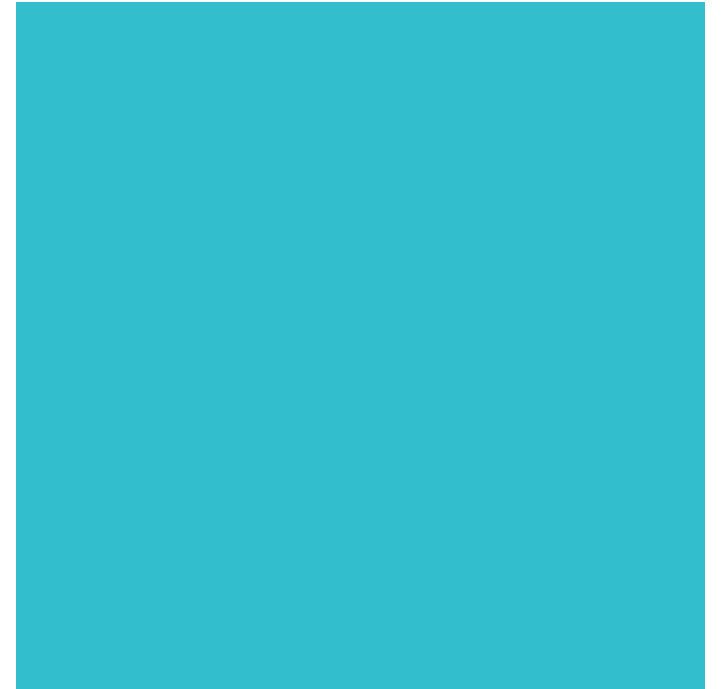


# Radianen



## Color RGB

```
colorMode(RGB);  
fill(50, 190, 204);  
rect(0, 0, 200, 200);
```



```
fill(red, green, blue);
```

## Color HSB

```
colorMode(HSB);  
fill(50, 190, 204);  
rect(0, 0, 200, 200);
```



```
fill(hue, saturation, brightness);
```

# For Schleife

*Start*

*Bedingung*

*Zählen*

```
for(int i = 0;   i < 20;   i++) {  
    println("Hallo");  
    println(i);  
}
```



# For Loop

```
for(int i = 0; i < 20; i++) {  
    println(i);  
}
```

```
for(int i = 0; i < particles.size(); i++) {  
    Particle p = particles.get(i);  
    p.draw();  
}
```

## Vergleiche

a < b

a **kleiner** b

a > b

a **größer** b

a == b

a **gleich** b

a != b

a **ungleich** b

a >= b

a **größer gleich** b

a <= b

a **kleiner gleich** b

# Abkürzungen

$i++;$

$i += 1;$

$i = i + 1;$

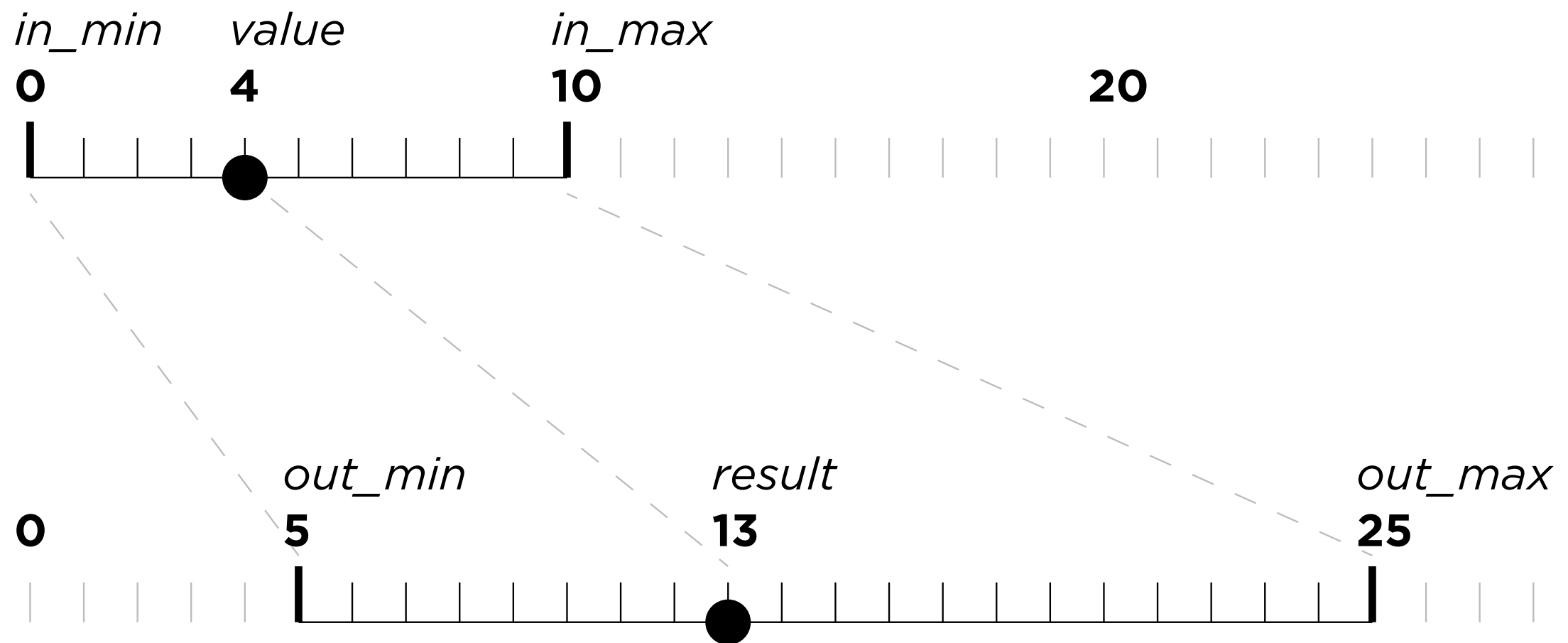
$i--;$

$i -= 1;$

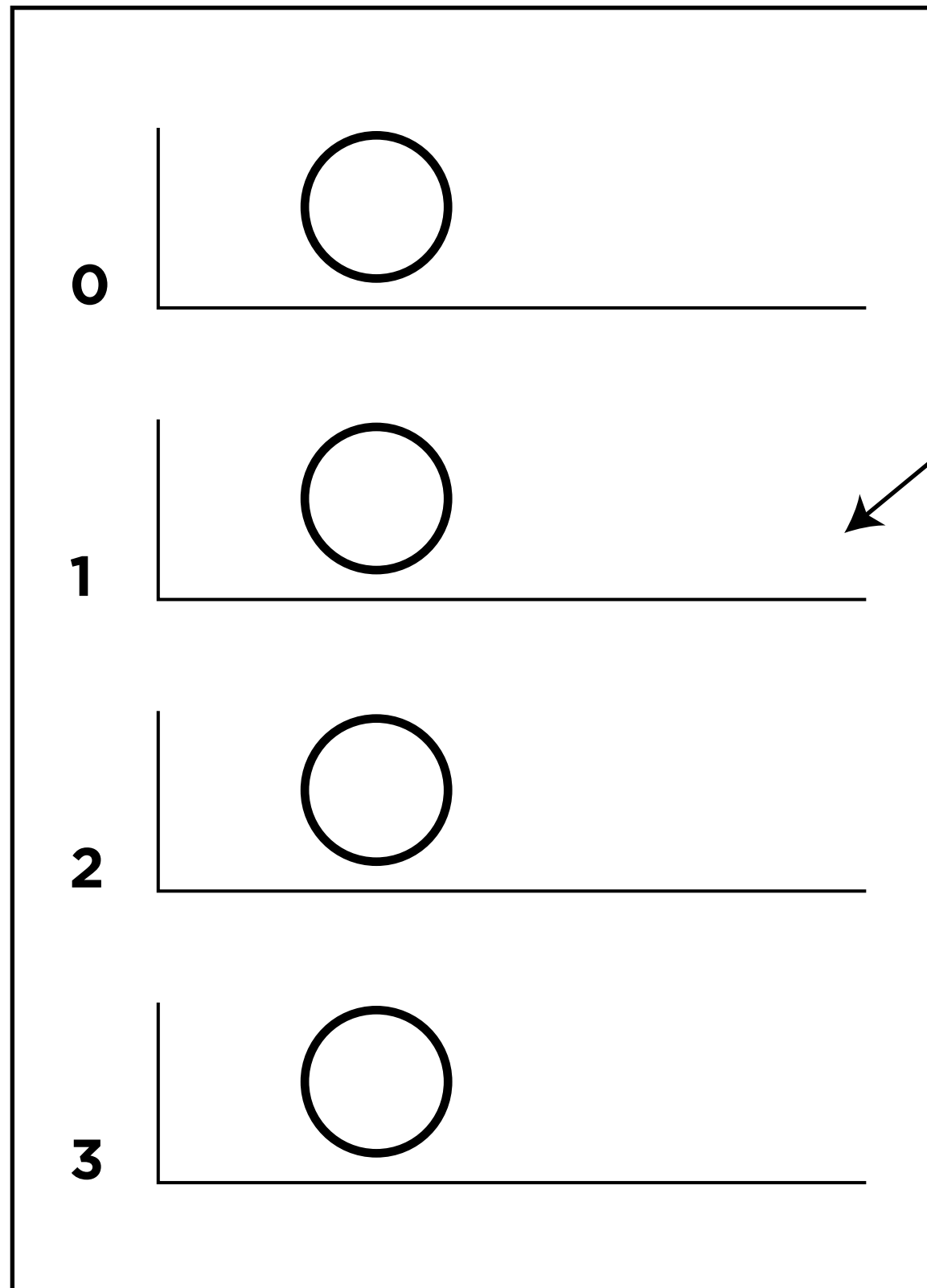
$i = i - 1;$

**map**(value, in\_min, in\_max, out\_min, out\_max);

*float* result = **map**(4, 0, 10, 5, 25);



**ArrayList<Particle>** particles



`particles.add(p);`

`particles.get(1);`

`particles.size();`

**4**