

```
public Rectangle(int x1, int y1, int x2, int y2) {  
    this.x1 = x1;  
    this.y1 = y1;  
    this.x2 = x2;  
    this.y2 = y2;  
}  
  
public int width() {  
    return this.x2 - this.x1;  
}  
  
public int height() {  
    return this.y2 - this.y1;  
}  
  
public double area() {  
    return this.width() * this.height();  
}
```

The diagram illustrates the resolution of variables in the provided Java code. Purple circles represent the 'this' keyword, which refers to the current object instance. Yellow circles represent the instance variables 'x1', 'y1', 'x2', and 'y2'. Red circles represent the expressions 'this.x1', 'this.y1', 'this.x2', and 'this.y2'. Lines connect these elements to show the flow of data and references. For example, in the constructor, 'this.x1' is assigned the value of 'x1'. In the 'width()' method, 'this.x2' and 'this.x1' are used to calculate the width. In the 'height()' method, 'this.y2' and 'this.y1' are used to calculate the height. In the 'area()' method, 'this.width()' and 'this.height()' are used to calculate the area.