

# Geometry in the Coordinate Plane Answer Key

1. Graph the points M (3, 1), N (3, 6) and P (7, 1).

a. What are the coordinates of O if figure MNOP is a rectangle?

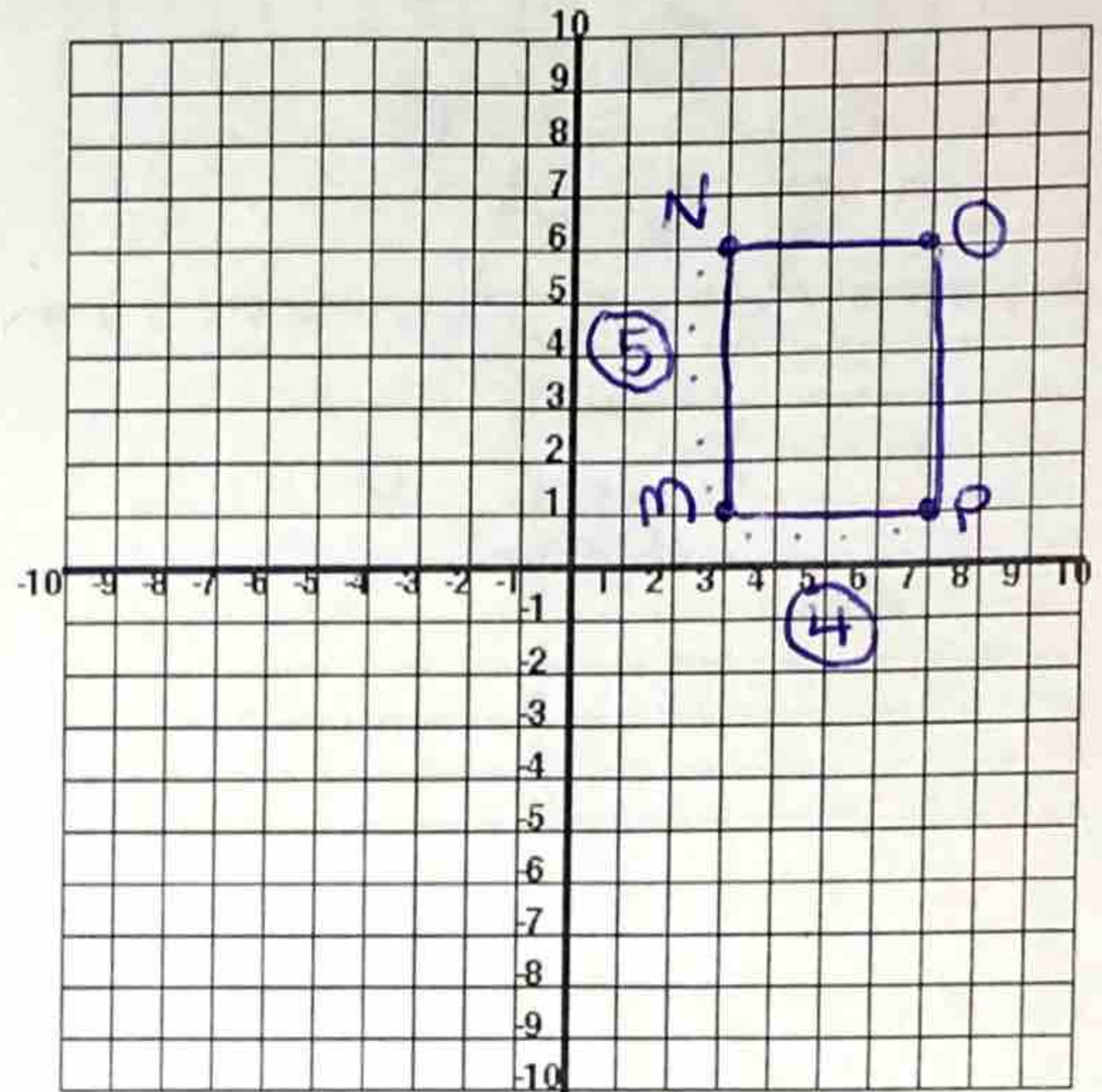
(7, 6)

b. Determine the perimeter of rectangle MNOP.

18 units

c. Determine the area of rectangle MNOP.

20 square units



2. Graph triangle XYZ: X (4, 6), Y (-2, 3), and Z (7, 3)

a. What is the length of the base?

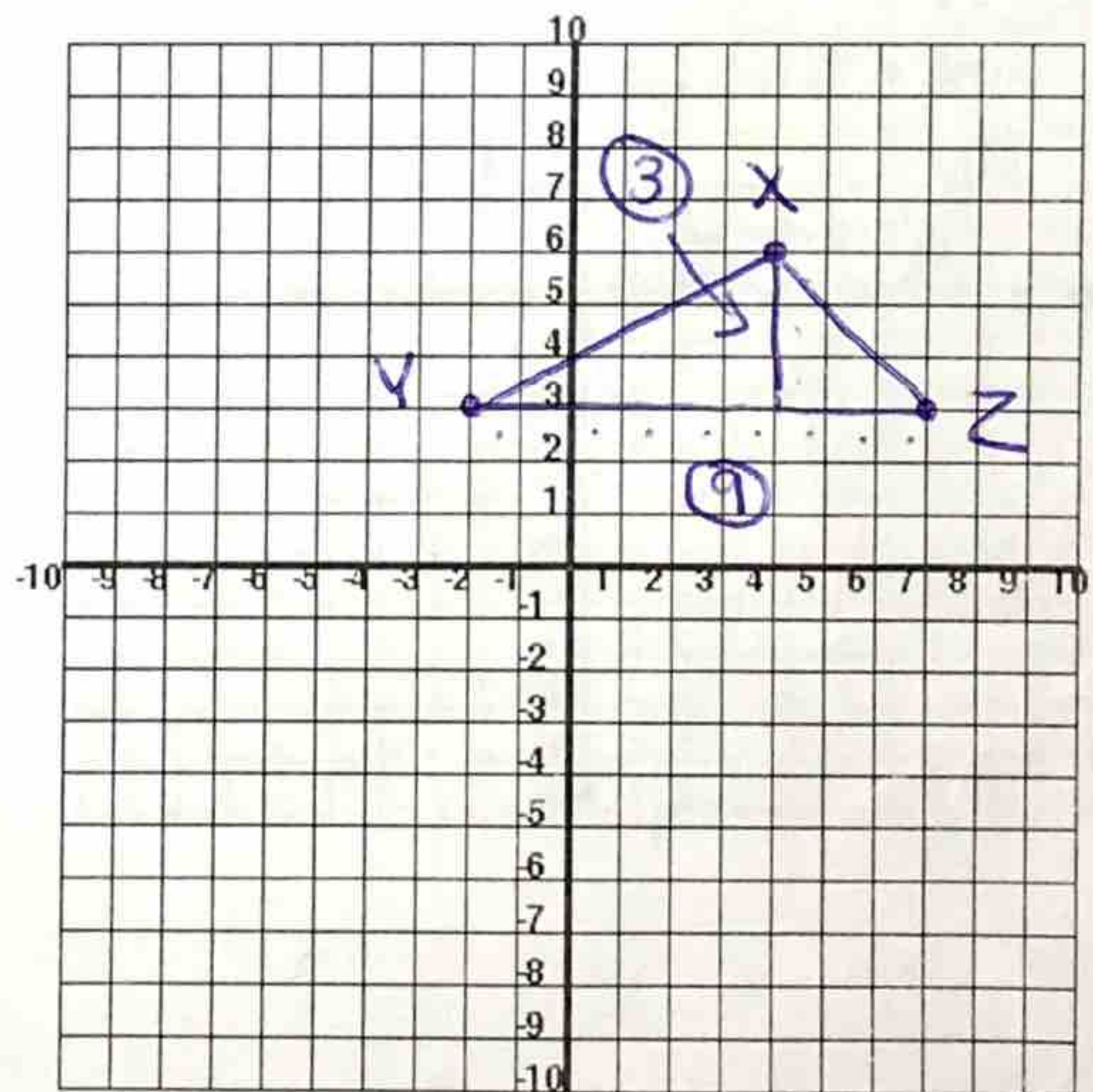
9 units

b. What is the length of the height?

3 units

c. Determine the area of the triangle.

Area = 13.5 square units



3. Graph the following points: R (-1, 2), S (5, 2), T (3, -2) and U (-3, -2)

a. What is the shape plotted?

parallelogram

b. Determine the length of the base.

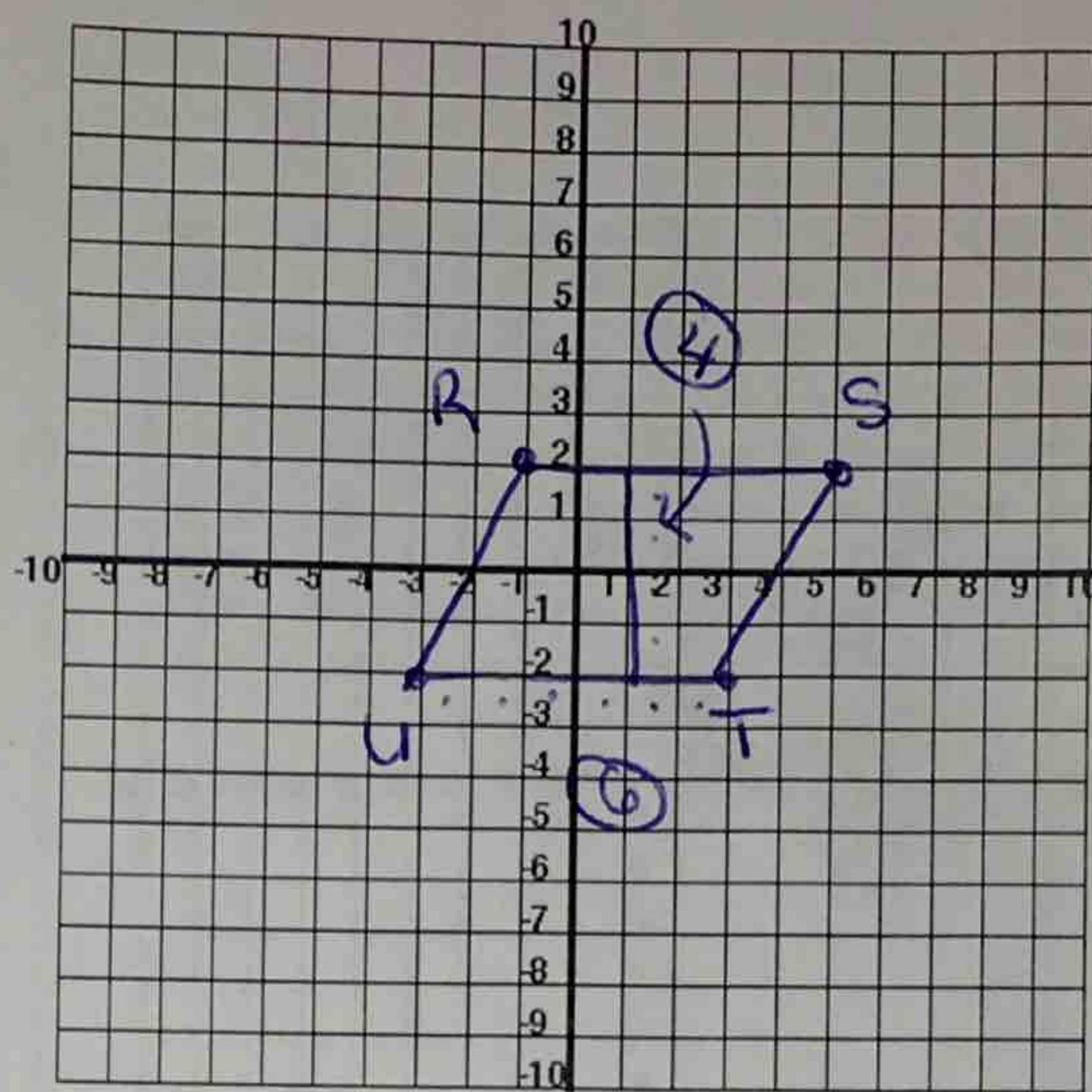
6 units

c. Determine the length of the height.

4 units

d. Determine the area.

24 square units



4. Plot the following:

- Rectangle ABCD with A (2, 1), B (2, 5), C (5, 5), D (5, 1)
- Rectangle EFGH with E (-2, 2), F (-2, 4), G (6, 4), and H (6, 2)

a. Determine the perimeter of ABCD.

14 units

b. Determine the perimeter of EFGH.

20 units

c. Determine the area of ABCD.

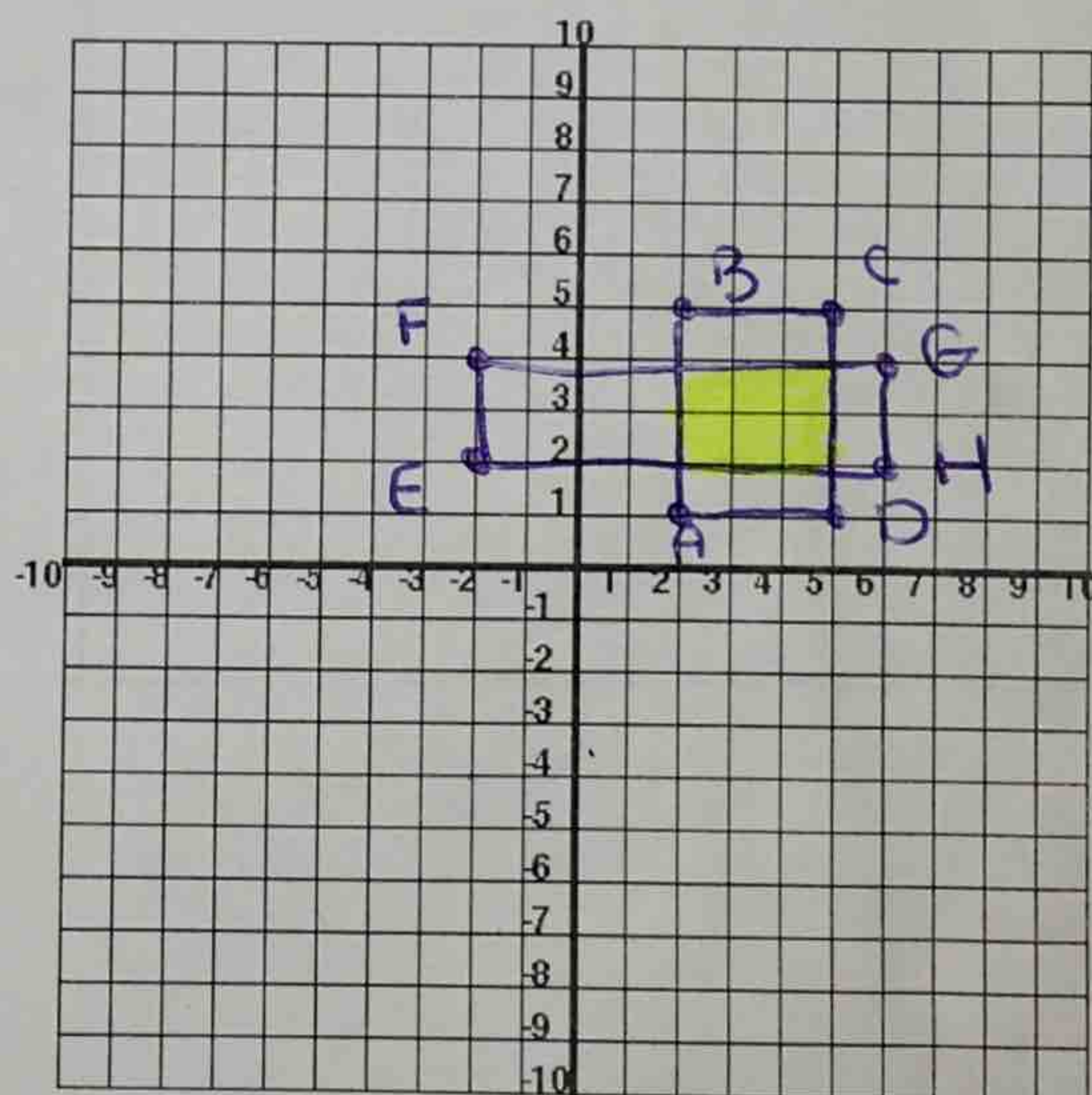
12 square units

d. Determine the area of EFGH.

16 square units

e. Find the area of the overlap of the rectangles. How did you determine your answer?

6 square units – I counted the squares



5. Plot the following:

- Circle C with a center at (4, 0) and a radius of 2.
- Square WXYZ with W (0, 0), X (0, 4), Y (4, 4), and Z (4, 0)

a. Determine the perimeter of square WXYZ.

16 units

b. Determine the area of WXYZ.

16 units<sup>2</sup>

c. Determine the diameter of Circle C.

4 units

d. Determine the circumference of Circle C.

$\pi d \rightarrow 3.14(4) = 12.56 \text{ units}$

e. Determine the area of Circle C.

$\pi r^2 \rightarrow 3.14(2)^2 = 12.56 \text{ units}^2$

f. Shade **red** the overlap of the rectangle and circle.

g. Shade **blue** the interior of rectangle WXYZ but exterior to circle C.

h. Shade **green** the exterior of rectangle WXYZ but interior to circle C.

