

Name: _____

Date: Dec 12

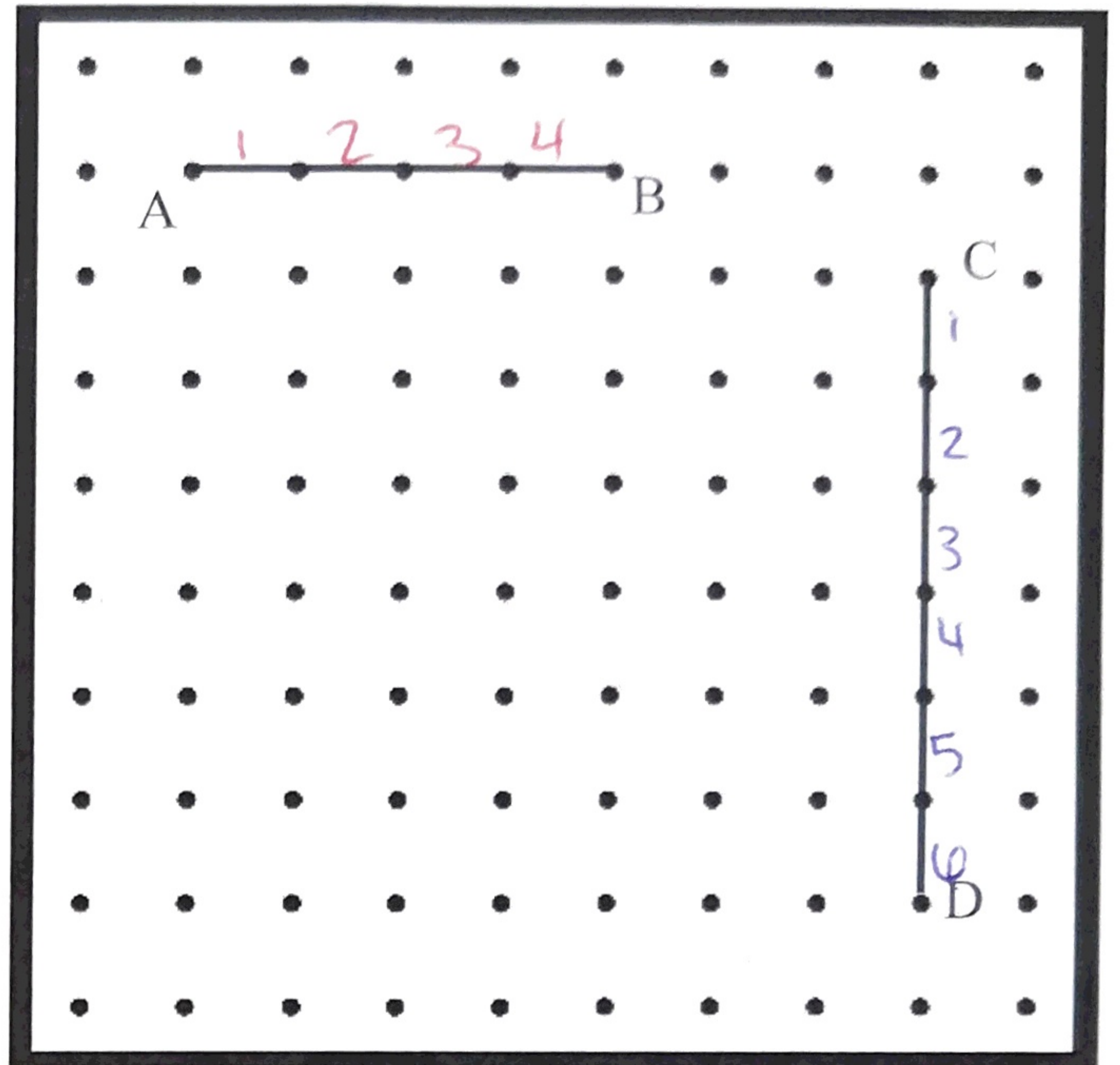
Hour: 6th

Unit 4A: Day 9: Finding Distance on the Coordinate Plane

Focus Question: How do I find the length of a slanted segment?

A. Vertical and Horizontal lines

1. What type of line is segment AB? *Horiz. (constant)*
2. What is the slope of segment AB? *m = 0*
3. What is the length of segment AB? *4*
4. What type of line is segment CD? *Vertical*
5. What is the slope of segment CD? *m = ∅*
6. What is the length of segment CD? *6*
7. Is length the same thing as slope? *No*



B. Slanted lines

1. Can you count to find the length of segment EF? Explain.

No b/c you can only count horiz & vertical

2. What is the slope of segment EF?

$$m = \frac{5}{7}$$

3. When you drew your stair, what type of triangle was created?

Right Δ

4. What did we learn about the length of the sides of right triangles?

$$a^2 + b^2 = c^2$$

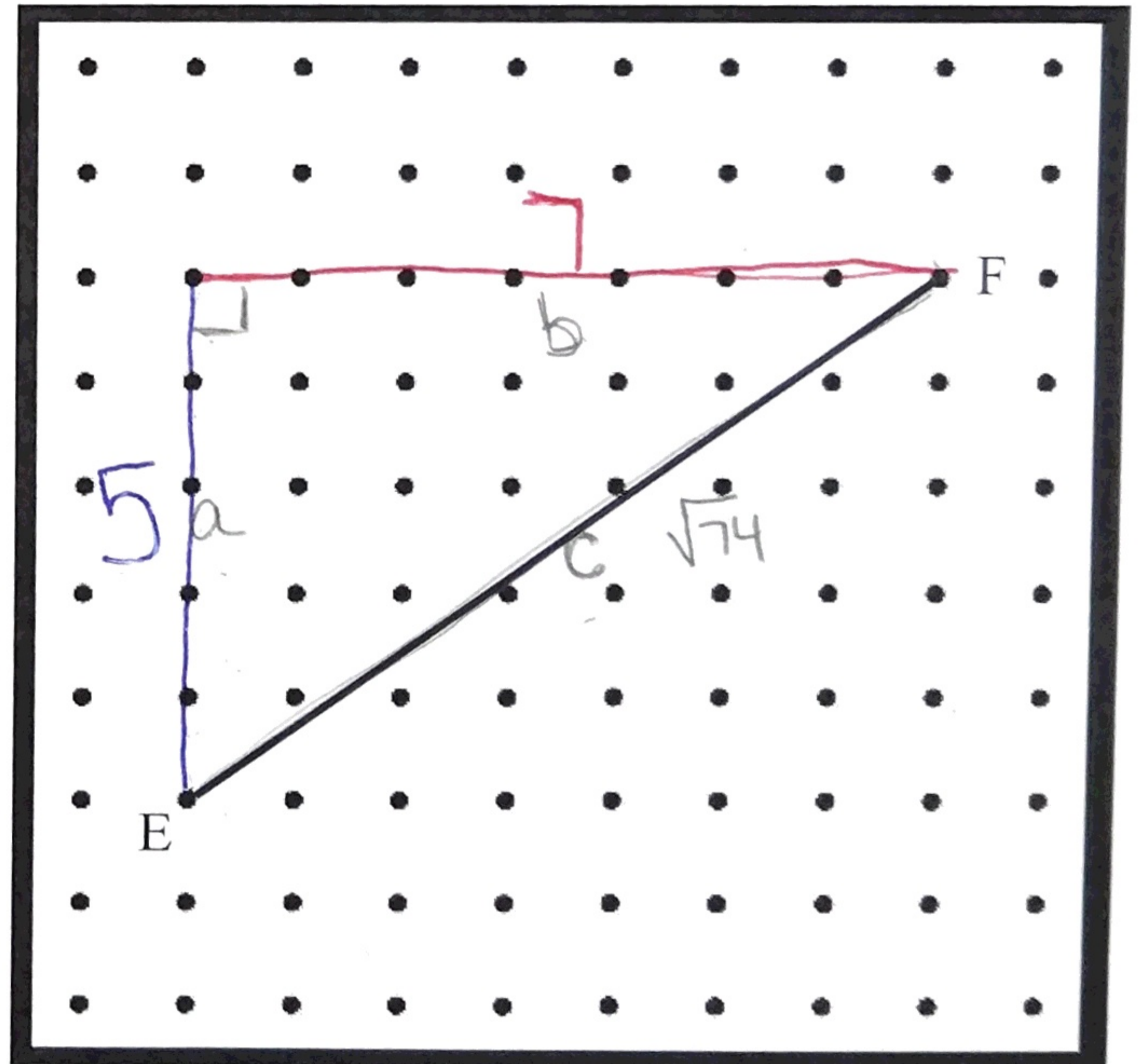
5. Label the triangle with a , b , and c . Then, find the length of segment EF. Give an exact and approximate answer.

$$5^2 + 7^2 = c^2$$

$$25 + 49 = c^2$$

$$\sqrt{74} = \sqrt{c^2}$$

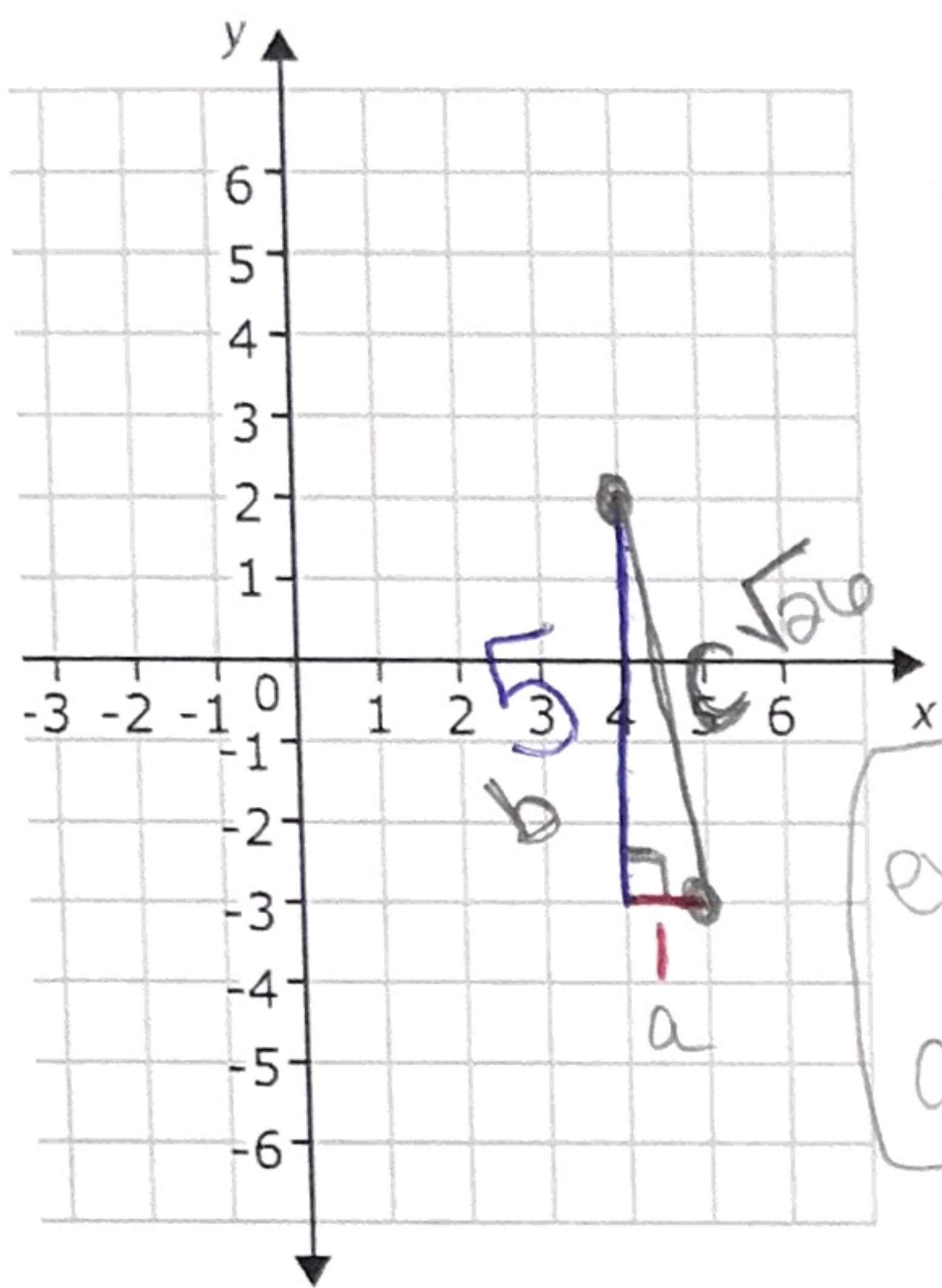
exact $\rightarrow \sqrt{74} = c$
 approx $\rightarrow 8.65 \approx c$



C. Distance on the coordinate plane.

Plot the two given points, then find the distance between them. Give an exact and approximate answer.

(4, 2) and (5, -3)



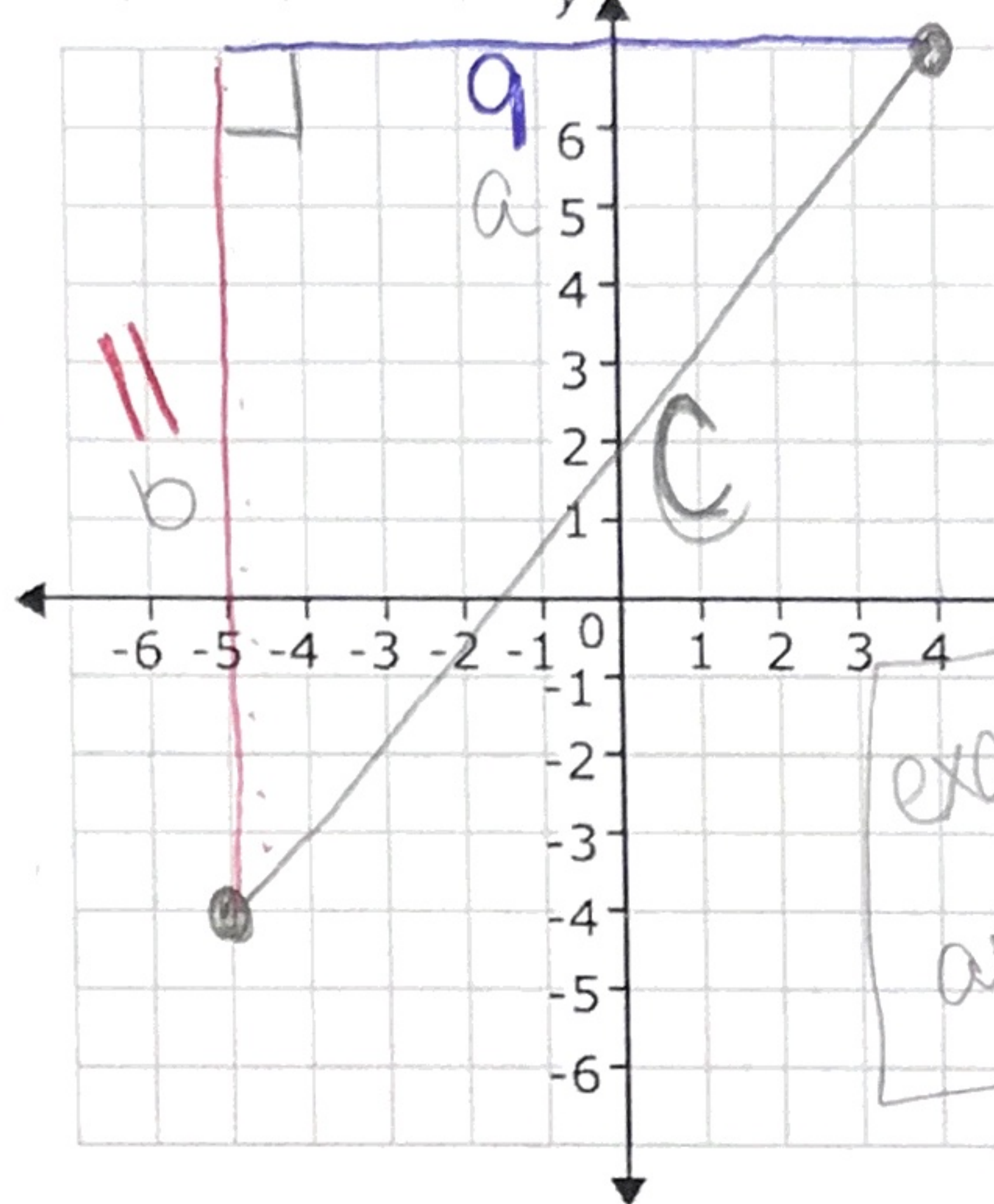
$$1^2 + 5^2 = c^2$$

$$1 + 25 = c^2$$

$$\sqrt{26} = c$$

exact $\sqrt{26} = c$
 approx $5.1 \approx c$

(-5, -4) and (4, 7)



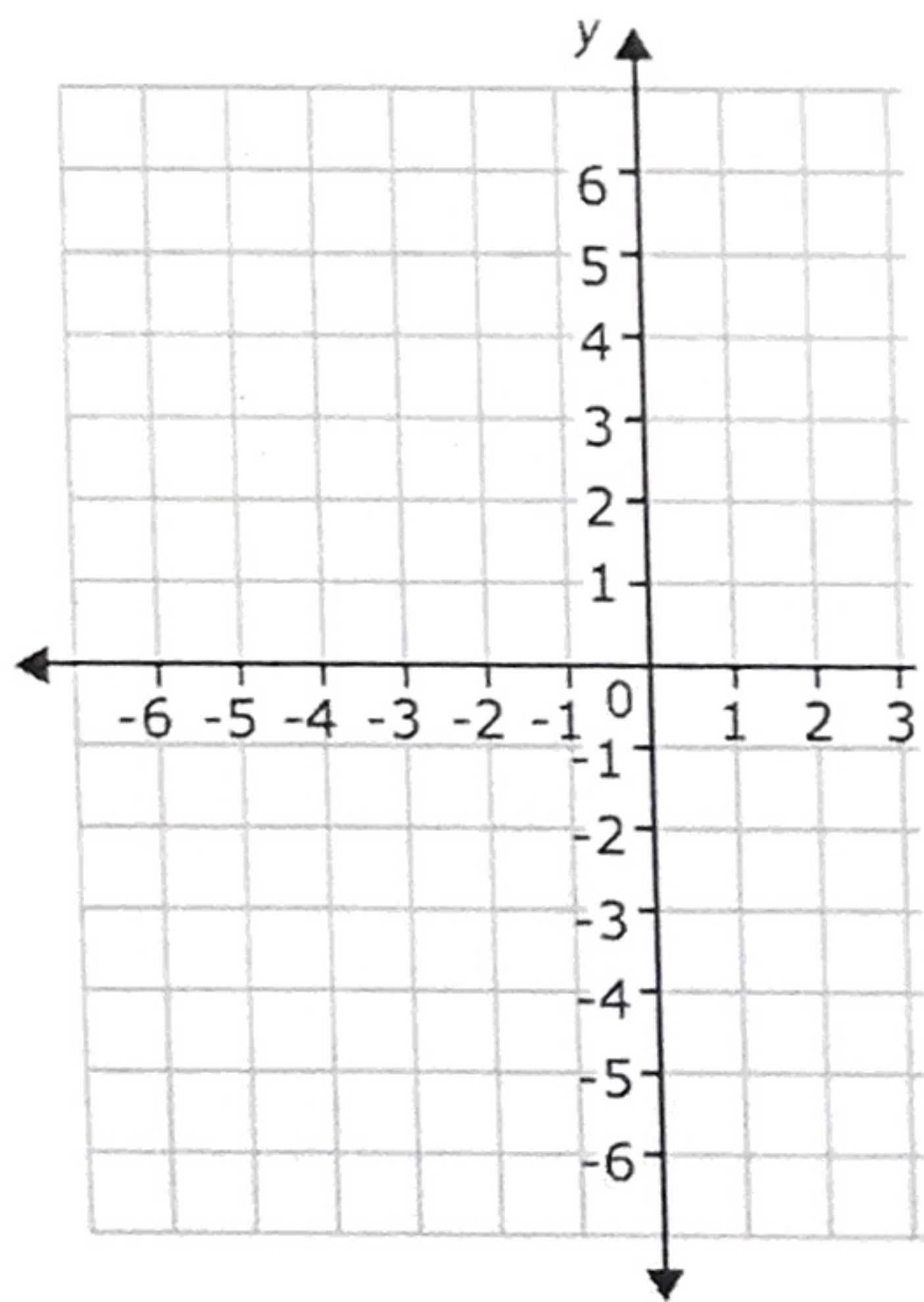
$$9^2 + 11^2 = c^2$$

$$81 + 121 = c^2$$

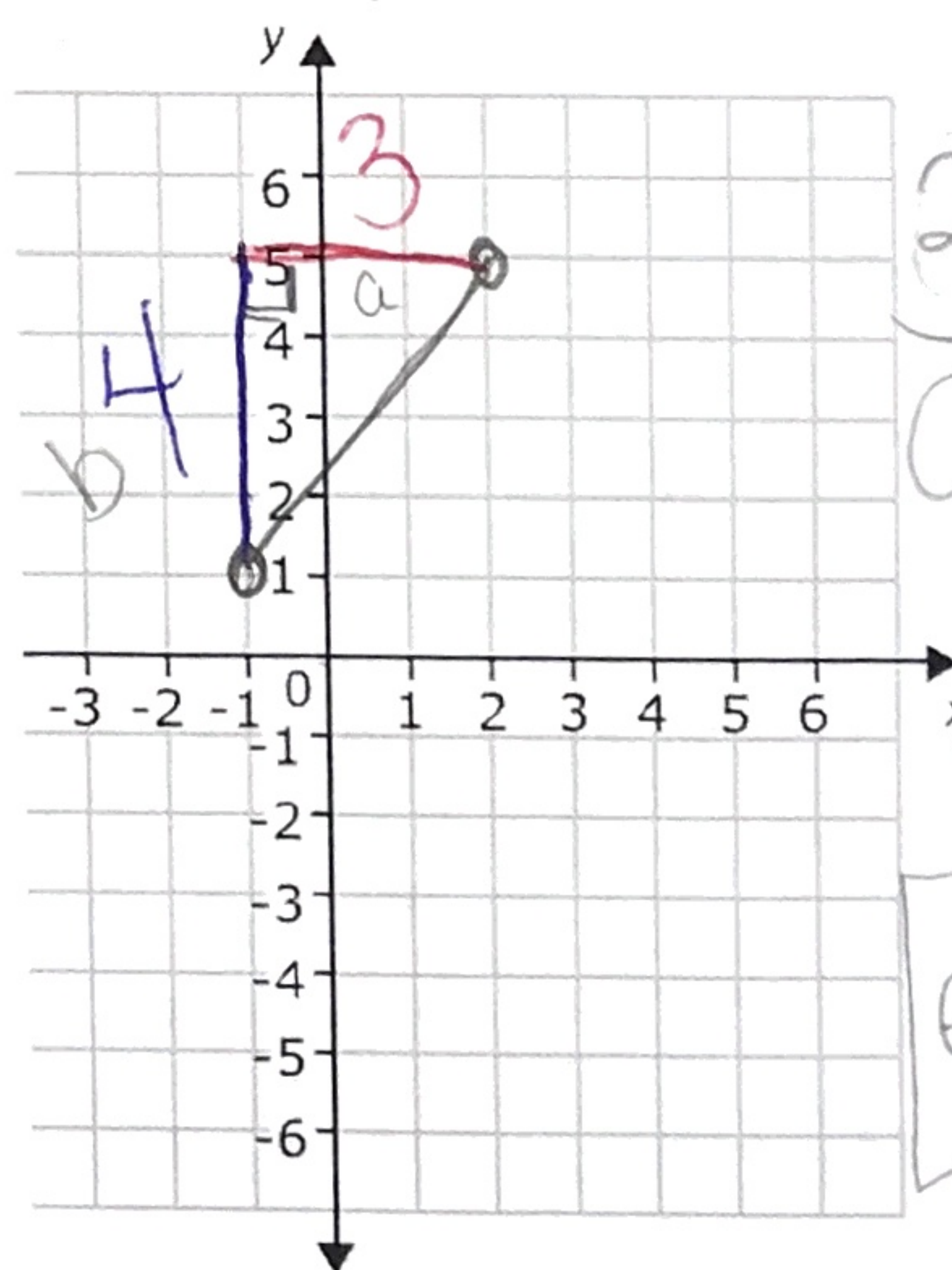
$$\sqrt{202} = c$$

exact $\sqrt{202} = c$
 approx $14.15 \approx c$

(0, 3) and (-4, -3)



(-1, 1) and (2, 5)



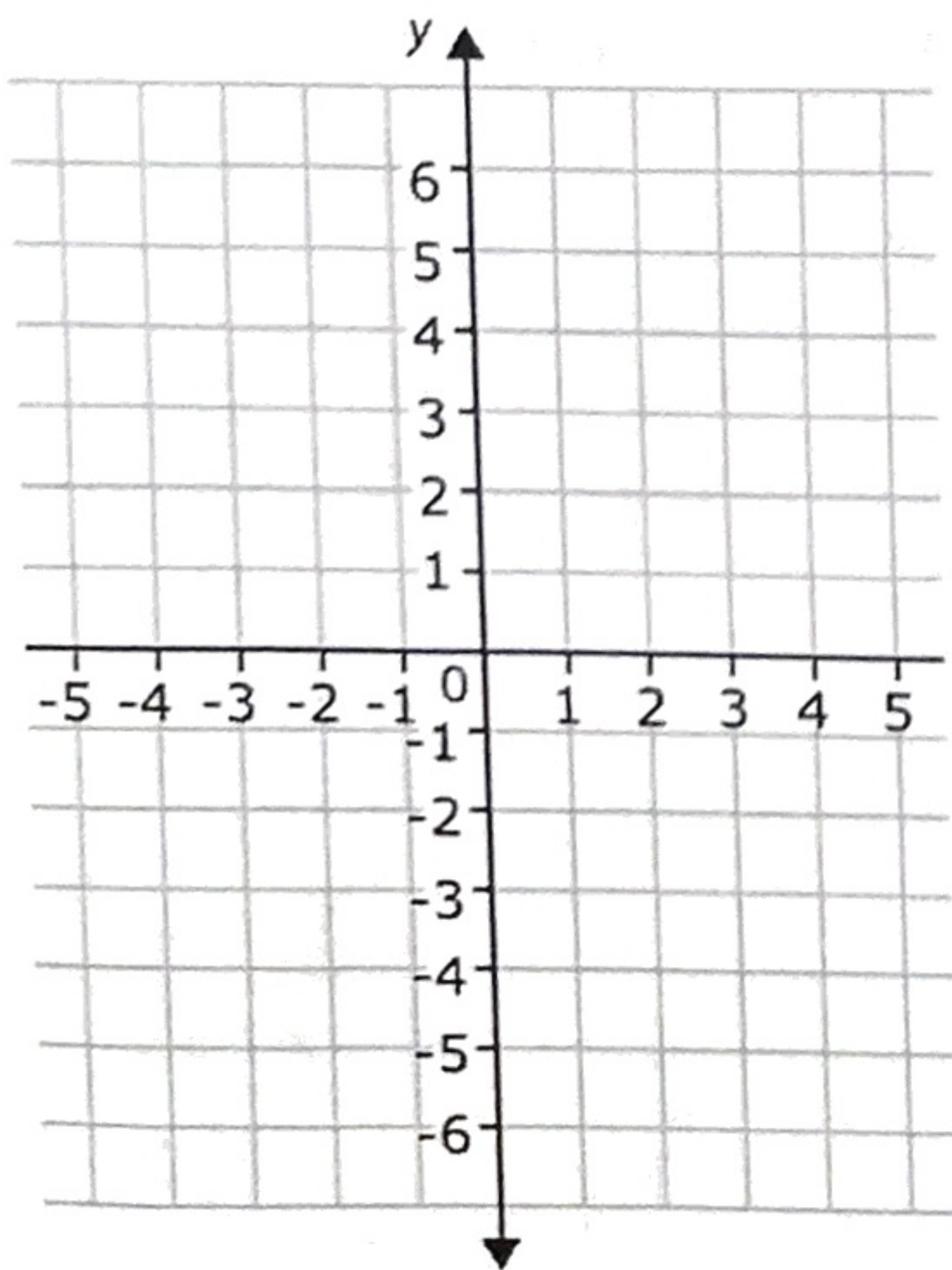
$$3^2 + 4^2 = c^2$$

$$9 + 16 = c^2$$

$$\sqrt{25} = c$$

exact $5 = c$

(4, 0) and (-2, 5)



(-5, -3) and (5, 5)

