Unit 3 Lesson 6: Squares and Square Roots

1 Math Talk: Four Squares (Warm up)

Student Task Statement

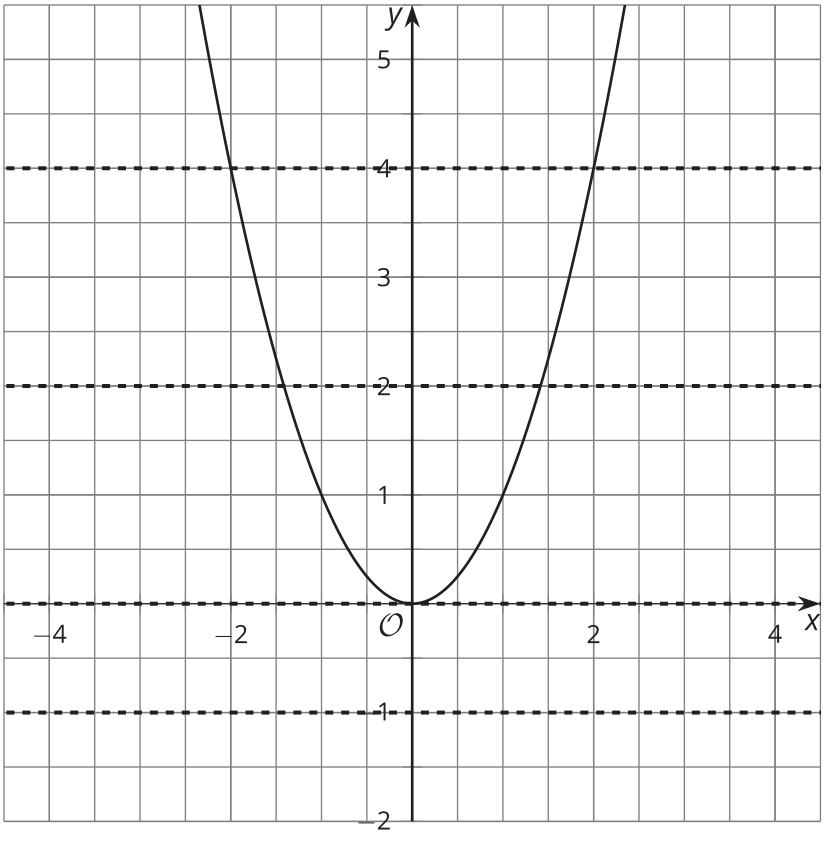
Find the solutions of each equation mentally.

$x^2 = 4$

$x^2 = 2$

$x^2 = 0$

$x^2 = -1$



2 Finding Square Roots

Student Task Statement

Clare was adding $\sqrt{4}$ and $\sqrt{9}$, and at first she wrote $\sqrt{4} + \sqrt{9} = 2 + 3$. But then she remembered that 2 and -2 both square to make 4, and that 3 and -3 both square to make 9. She wrote down all the possible combinations:

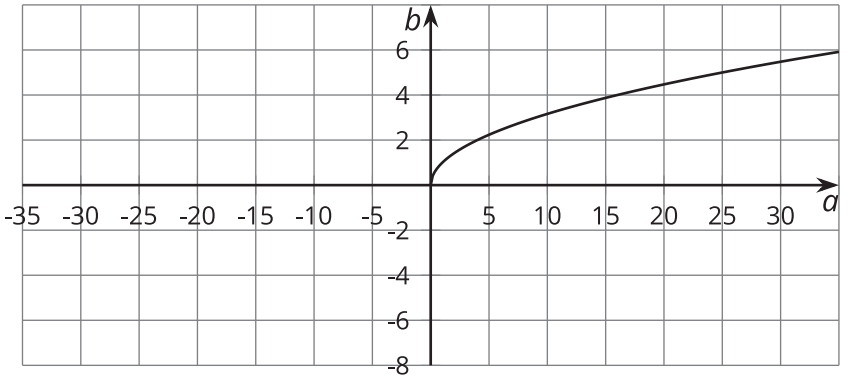
2 + 3 = 5
2 + (-3) = -1
(-2) + 3 = 1
(-2) + (-3) = -5

Then she wondered, "Which of these are the same as $\sqrt{4} + \sqrt{9}$? All of them? Or only some? Or just one?"

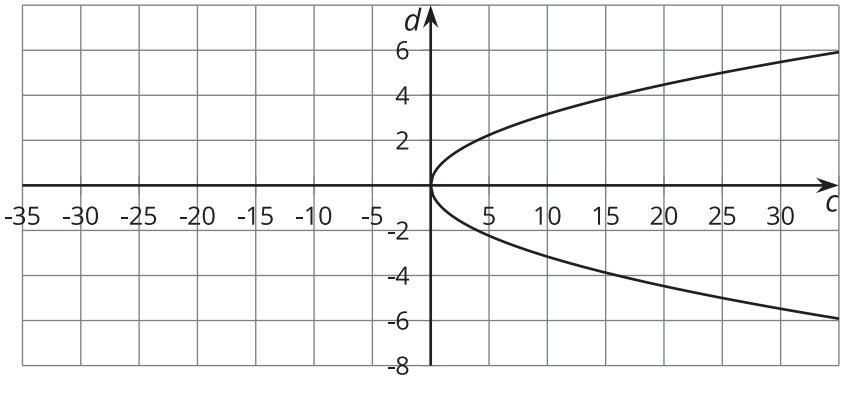
How would you answer Clare's question? Give reasons that support your answer.

Activity Synthesis

$b = \sqrt{a}$



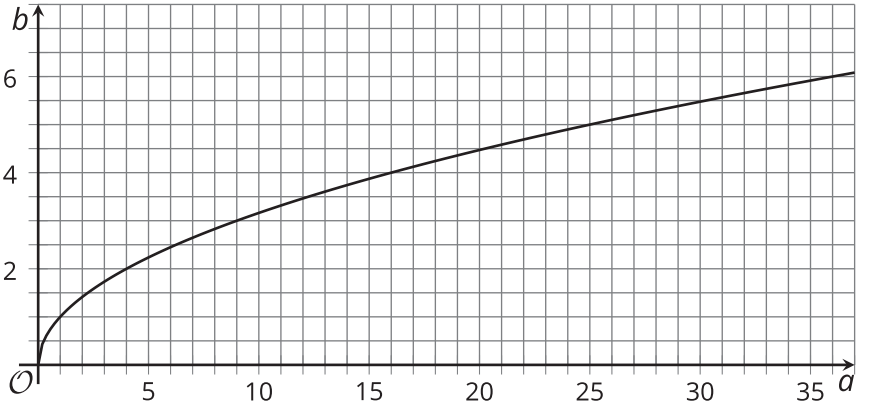
$d^2 = c$



3 One Solution or Two?

Student Task Statement

1. The graph of $b = \sqrt{a}$ is shown.



a. Complete the table with the exact values and label the corresponding points on the graph with the exact values.

a	1	4	9	12	16	20
$\sqrt{a}$						

b. Label the point on the graph that shows the solution to $\sqrt{a} = 4$.

c. Label the point on the graph that shows the solution to $\sqrt{a} = 5$.

d. Label the point on the graph that shows the solution to $\sqrt{a} = \sqrt{5}$.

2. The graph of $t = s^2$ is shown.

a. Label the point(s) on the graph that show(s) the solution(s) to $s^2 = 25$.

b. Label the point(s) on the graph that show(s) the solution(s) to $\sqrt{t} = 5$.

c. Label the point(s) on the graph that show(s) the solution(s) to $s^2 = 5$.