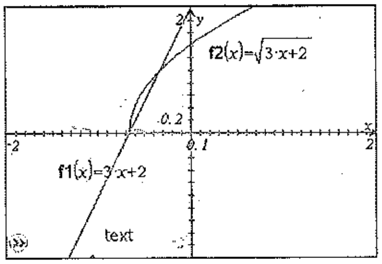
b) Example: He could change the window settings so that the focus is more on the x-values between the invariant points. He could also use the table function on his calculator to create a table of values.

c)

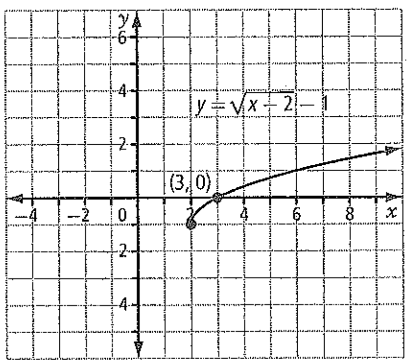


2.3 Solving Radical Equations Graphically, pages 55–62

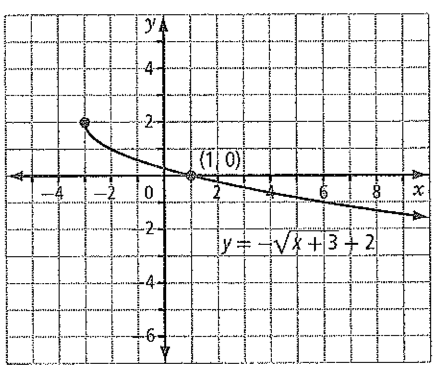
1. a) $x = 22$ **b)** $x = 43$

c) $x = 20$ **d)** $x = 3$

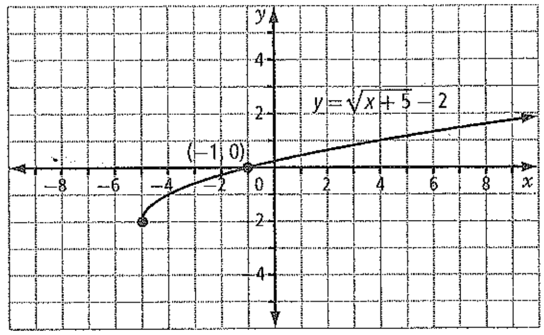
2. a) $x = 3$



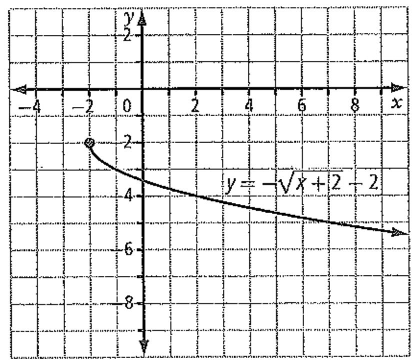
b) $x = 1$



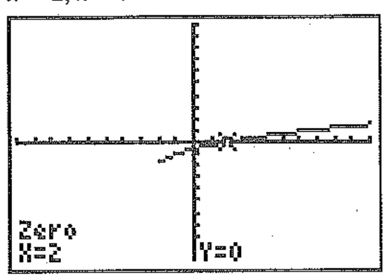
c) $x = -1$



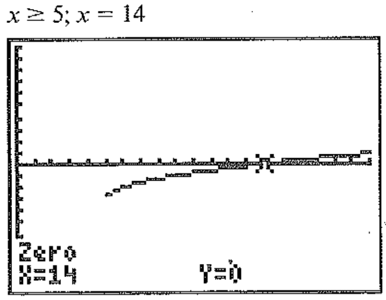
d) no solution



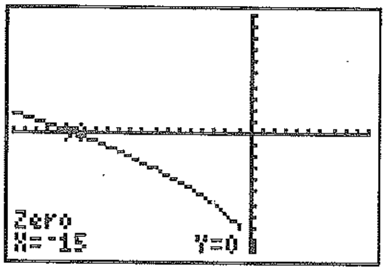
3. a) $x \geq 2$; $x = 2$



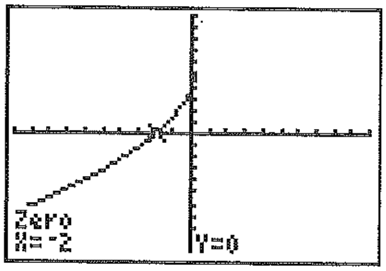
b) $x \geq 5$; $x = 14$



c) $x \le 1$; $x = -15$



d) $x \le 0.25$; $x = -2$



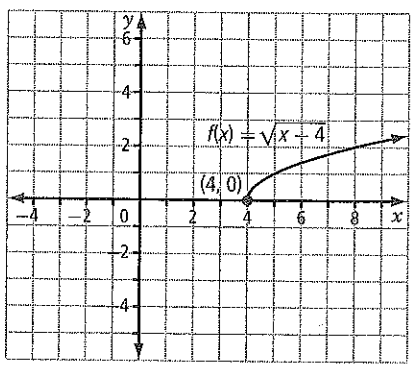
4. a) $x \ge -10$; $x = 6$ **b)** $x \le -2$; $x = -2$

c) $x \le 4$; $x = 4$ **d)** $x \le 5.2$; $x = 5$

5. a) In solving the equation algebraically you obtain $x = 7$, but when you substitute $x = 7$ into the original equation it does not satisfy the equation.

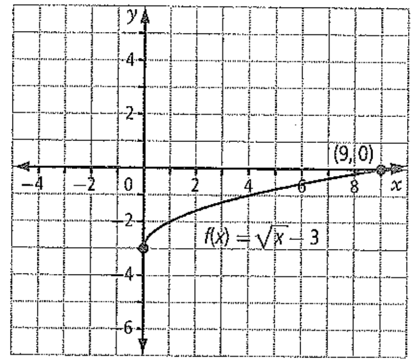
b) If you graph a single function, $y = \sqrt{2x - 5} + 3$, there is no x-intercept. If you graph two functions, $y = \sqrt{2x - 5} + 4$ and $y = 1$, there is no point of intersection.

6. a) The graph of $y = \sqrt{x}$ is translated 4 units right.



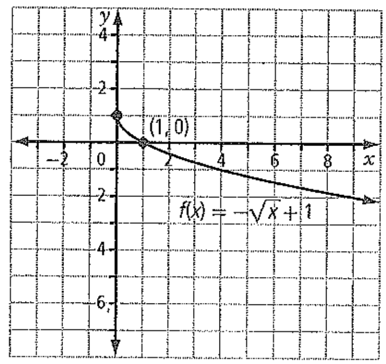
$x = 4$

b) The graph of $y = \sqrt{x}$ is translated 3 units down.



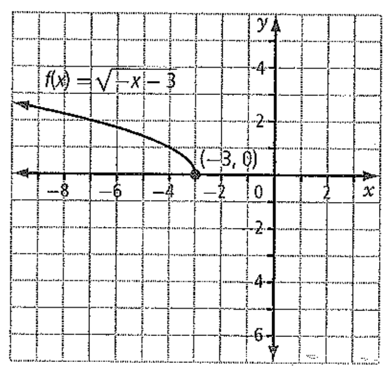
$x = 9$

c) The graph of $y = \sqrt{x}$ is reflected in the x-axis, and translated 1 unit up.



$x = 1$

d) The graph of $y = \sqrt{x}$ is reflected in the y-axis, and then translated 3 units left.



$x = -3$

7. $f(x) = \sqrt{2x} - 4$