Name: Date: Period:

Compare each function to the parent function and describe the change.

1. $f(x) = \sqrt{x-3} + 5$

2. $f(x) = -3\sqrt{x+1} - 2$

3. $f(x) = -\sqrt{x+4}$

4. $f(x) = \frac{1}{2}\sqrt{x+2} - 3$

5. $f(x) = -2\sqrt{-x} + 1$

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

Graph the following equations on a separate piece of graph paper. Identify the domain and range of the function using set notation.

7. $f(x) = \sqrt{x-1} + 1$

D:

R:

8. $f(x) = -\frac{1}{2}\sqrt{x} - 2$

D:

R:

9. $f(x) = \sqrt{-x-1} - 3$

D:

R:

10. $f(x) = 2\sqrt{x}$

D:

R:

Solve the following radical equations. Be sure to prove your answer(s) work.

1. $\sqrt{2x+1} = 3$

2. $\sqrt{2-y} + 1 = 5$

3. $4 - \sqrt{x+1} = 5$

4. $x - 1 + \sqrt{x^2+3} = 0$

5. $x = \sqrt{6x+18} - 3$

6. $x = 2\sqrt{x-1}$