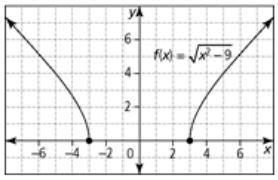
BLM 2–4 Section 2.2 Extra Practice

1.

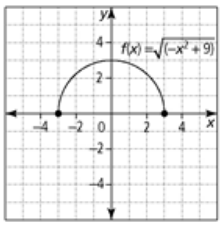
x	$f(x)$	$\sqrt{f(x)}$
−2	16	4
−1	8	2.83
0	4	2
1	1.96	1.4
2	1	1

2. a) (9, 3.74) **b)** $(p, \sqrt{r})$ **c)** (−2, 2.65)
d) No corresponding point exists.

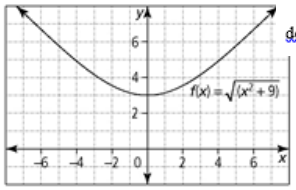
3. a)



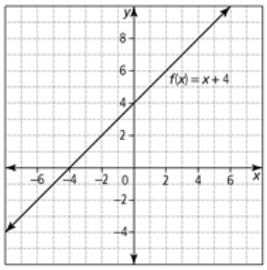
b)



c)

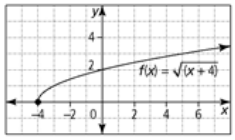


4. a)



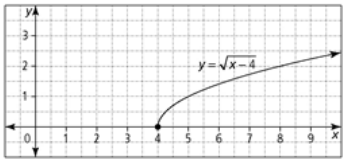
b) domain: $\{x \mid x \in R\}$; range: $\{y \mid y \in R\}$

c)



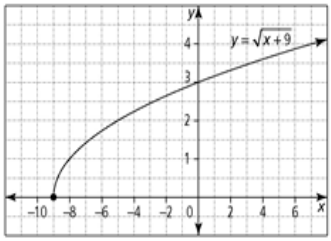
d) domain: $\{x \mid x \geq -4, x \in R\}$;
range: $\{y \mid y \geq 0, y \in R\}$

5. a)



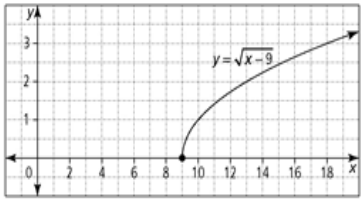
domain: $\{x \mid x \geq 4, x \in R\}$; range: $\{y \mid y \geq 0, y \in R\}$

b)



domain: $\{x \mid x \geq -9, x \in R\}$; range: $\{y \mid y \geq 0, y \in R\}$

c)



domain: $\{x \mid x \geq 9, x \in R\}$; range: $\{y \mid y \geq 0, y \in R\}$

6. a) $y = x + 5$: domain: $\{x \mid x \in R\}$, range: $\{y \mid y \in R\}$; $y = \sqrt{x + 5}$: domain: $\{x \mid x \geq -5, x \in R\}$, range: $\{y \mid y \geq 0, y \in R\}$

b) $y = 3x - 9$: domain: $\{x \mid x \in R\}$, range: $\{y \mid y \in R\}$; $y = \sqrt{3x - 9}$: domain: $\{x \mid x \geq 3, x \in R\}$, range: $\{y \mid y \geq 0, y \in R\}$

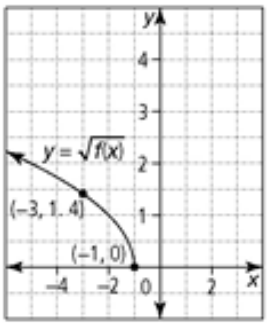
c) $y = -x - 10$: domain: $\{x \mid x \in R\}$, range: $\{y \mid y \in R\}$; $y = \sqrt{-x - 10}$: domain: $\{x \mid x \leq -10, x \in R\}$, range: $\{y \mid y \geq 0, y \in R\}$

7. a) domain: $\{x \mid x \leq -4 \text{ and } x \geq 4, x \in \mathrm{R}\}$;
range: $\{y \mid y \geq 0, y \in \mathrm{R}\}$

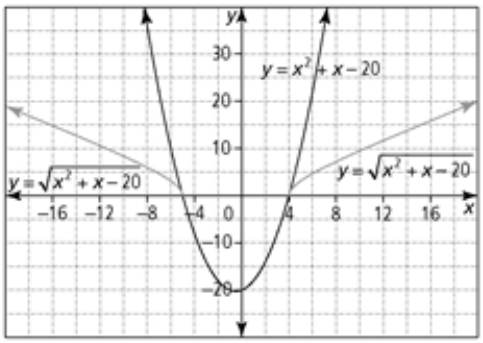
b) domain: $\{x \mid x \in \mathrm{R}\}$; range: $\{y \mid y \geq \sqrt{5}, y \in \mathrm{R}$

c) domain: $\{x \mid x \in \mathrm{R}\}$; range: $\{y \mid y \geq \sqrt{18}, y \in \mathrm{R}$

8.



9. a)



b) Example: The graph of $y = x^2 + x - 20$ has y-values that are less than zero for values of x between -5 and 4. Therefore, $y = \sqrt{x^2 + x - 20}$ is undefined for this interval of x.

10. a) Example: all points that have a y-value of 0 or 1

b) Example: all points that have a negative y-value