Review Ch 2
Answer Section

KEY

MULTIPLE CHOICE

1. ANS: C
2. ANS: A
3. ANS: D
4. ANS: B
5. ANS: D
6. ANS: D
7. ANS: C
8. ANS: D
9. ANS: C
10. ANS: B
11. ANS: D

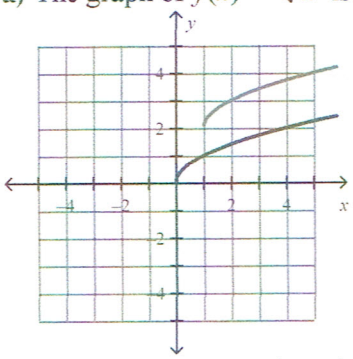
COMPLETION

1. ANS: is below the graph of y = f(x)
2. ANS: $\{y | y \geq \sqrt{3/2}, y \in R\}$
3. ANS: $x \leq 2$

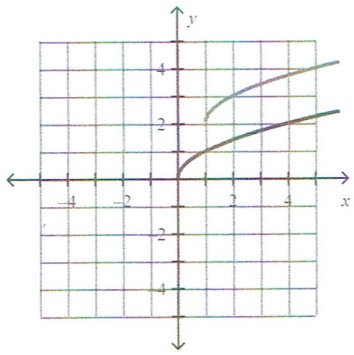
SHORT ANSWER

1. ANS:

a) The graph of $f(x) = \sqrt{x}$ is shown in blue and the graph of $g(x) = \sqrt{x-1} + 2$ is shown in red.



b) The graph of $f(x) = \left|\sqrt{x}\right|$ is shown in blue and the graph of $g(x) = \left|\sqrt{x-1}\right| + 2$ is shown in red.



2. ANS:

Substitute values into the general equation $g(x) = a\sqrt{b(x-h)} + k$.

a) $g(x) = 5\sqrt{x-6}$

b) $g(x) = \sqrt{6x} - 4$

c) $g(x) = \sqrt{-(x-2)} + 9$

or

$g(x) = \sqrt{-x+2} + 9$

d) $g(x) = -\frac{2}{3}\sqrt{\frac{1}{\frac{1}{3}}x}$

or

$g(x) = -\frac{2}{3}\sqrt{3x}$

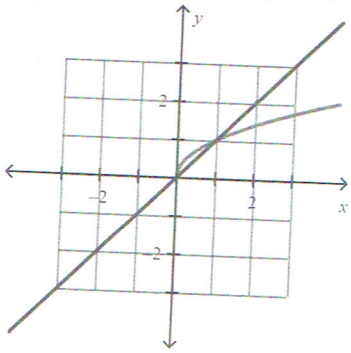
3. ANS:

a) $y = -\sqrt{x+4} - 3$

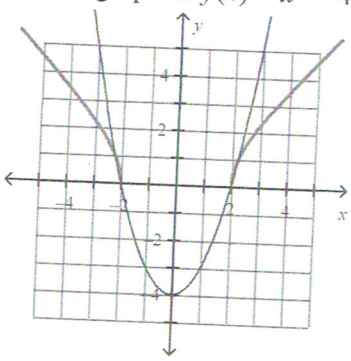
b) $y = 2\sqrt{x-1} + 2$

4. ANS:

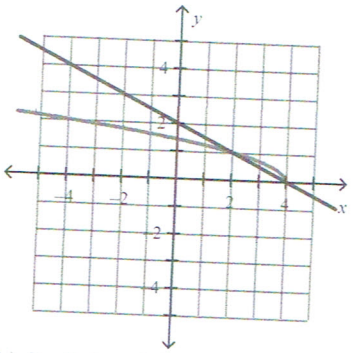
a) i) The graph of $f(x) = x$ is shown in blue and the graph of $g(x) = \sqrt{f(x)}$ is shown in red.



ii) The graph of $f(x) = x^2 - 4$ is shown in blue and the graph of $g(x) = \sqrt{f(x)}$ is shown in red.



iii) The graph of $f(x) = -0.5x + 2$ is shown in blue and the graph of $g(x) = \sqrt{f(x)}$ is shown in red.



b) i) $f(x)$: $\{x|x \in R\}, \{y|y \in R\}$

$g(x)$: $\{x|x \geq 0, x \in R\}, \{y|y \geq 0, y \in R\}$

ii) $f(x)$: $\{x|x \in R\}, \{y|y \geq -9, y \in R\}$

$g(x)$: $\{x|x \geq 3, x \leq -3, x \in R\}, \{y|y \geq 0, y \in R\}$

5. ANS:

b) $3\sqrt{2x+4}+9=12$

$3\sqrt{2x+4}=3$

$\sqrt{2x+4}=1$

$2x+4=1$

$2x=-3$

$x=-\frac{3}{2}$

a) Restriction

$2x+4 \geq 0$

$\frac{2x}{2} \geq \frac{-4}{2}$

$x \geq -2$

c) yes