Perform the requested operation or operations.

12) $f(x) = \sqrt{4x + 8}$, $g(x) = \sqrt{4x - 8}$

    Find $(f + g)(x)$.

    A) $\sqrt{8x}$ B) $\sqrt{4x + 8} + \sqrt{4x - 8}$ C) $x\sqrt{8}$ D) $4x$

12) _____

Perform the requested operation or operations.

13) $f(x) = x^2 + 2$; $g(x) = \sqrt{x - 9}$

    Find $f(g(x))$.

    A) $f(g(x)) = \dfrac{\sqrt{x - 9}}{x^2 + 2}$ B) $f(g(x)) = \sqrt{x^2 - 7}$ C) $f(g(x)) = x - 7$ D) $f(g(x)) = (x^2 + 2)(\sqrt{x - 9})$

13) _____

Give the equation of the function g whose graph is described.

14) The graph of $f(x) = \sqrt{x}$ is shifted 1 units to the left. Then the graph is shifted 6 units upward.

    A) $g(x) = \sqrt{x - 1} + 6$ B) $g(x) = 6\sqrt{x + 1}$ C) $g(x) = \sqrt{x + 6} + 1$ D) $g(x) = \sqrt{x + 1} + 6$

14) _____

Write a mathematical expression for the quantity described verbally.

15) Sale price of an item marked x dollars, if 33% is discounted from the marked price

    A) $0.67x$ B) $1.33x$ C) $x - 33$ D) $x - 0.33$

15) _____

16) The area of a triangle whose altitude is 4 more than its base length x

    A) $\frac{1}{2}(x)(x + 4)$ B) $\frac{1}{2}x^2 - 4$ C) $(x)(x + 4)$ D) $\frac{1}{2}(x)(x - 4)$

16) _____

17) The profit consists of a franchise fee of \$100,000 plus 20% of all sales

    A) $(0.2x + 100,000)$ B) $0.2 + 100,000x$ C) \$100,000 - 0.2   D) $20x + 100,000$

17) _____

Use an equation to solve the problem.

18) If Gloria received a 9% raise and is now making \$21,800 a year, what was her salary before the raise?

    A) \$19,800   B) \$20,000   C) \$21,000   D) \$20,800

18) _____

A-3

Answer Key
Testname: CHAPTER 1 TEST-PART 1

1) D
    Objective: (1.1) Solve Apps: Analyze Numerical/Graphical Model

2) B
    Objective: (1.6) Describe Transformations Given Two Functions

3) C
    Objective: (1.6) Describe Transformations Given Two Functions

4) C
    Objective: (1.6) Find Equation Given Original Curve and Transformations

5) D
    Objective: (1.2) Find Domain of Function

6) C
    Objective: (1.2) Find Domain of Function

7) D
    Objective: (1.2) Find Range of Function

8) B
    Objective: (1.2) Find Horizontal and Vertical Asymptotes of Function

9) A
    Objective: (1.2) Find Horizontal and Vertical Asymptotes of Function

10) A
    Objective: (1.2) Determine Whether Function Is Odd, Even, or Neither

11) D
    Objective: (1.3) Tech: Use Graphing Calculator to Find Domain and Range

12) B
    Objective: (1.4) Combine Functions Algebraically

13) C
    Objective: (1.4) Find Composition of Functions

14) D
    Objective: (1.6) Find Equation Given Original Curve and Transformations

15) A
    Objective: (1.7) Write Mathematical Expression for Quantity Described Verbally

16) A
    Objective: (1.7) Write Mathematical Expression for Quantity Described Verbally

17) A
    Objective: (1.7) Write Mathematical Expression for Quantity Described Verbally

A-4

18) B