11U - U2: Intro to Functions - Domain and Range practice
Answer Section

MULTIPLE CHOICE

1. ANS: D PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.2 - Function Notation
2. ANS: A PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.2 - Function Notation
3. ANS: D PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.4 - Determining the Domain and Range of a Function
4. ANS: C PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.1 - Relations and Functions
5. ANS: A PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.1 - Relations and Functions
6. ANS: D PTS: 1 REF: Application OBJ: 1.1 - Relations and Functions
7. ANS: B PTS: 1 REF: Thinking OBJ: 1.1 - Relations and Functions
8. ANS: B PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.1 - Relations and Functions
9. ANS: A PTS: 1 REF: Knowledge and Understanding
   OBJ: 1.2 - Function Notation
10. ANS: B PTS: 1 REF: Application
    OBJ: 1.4 - Determining the Domain and Range of a Function
11. ANS: C PTS: 1 REF: Knowledge and Understanding
    OBJ: 1.4 - Determining the Domain and Range of a Function
12. ANS: B PTS: 1 REF: Knowledge and Understanding
    OBJ: 1.4 - Determining the Domain and Range of a Function

SHORT ANSWER

13. ANS:
    $f(k+4) = -2k^2 - 13k - 28$

    PTS: 1 REF: Application OBJ: 1.2 - Function Notation
14. ANS:

$f(d)$	$f(n) = 6 + 5n - 2n^2$
–2	-12
–1	-1
0	6
1	9
3	3

    PTS: 1 REF: Application OBJ: 1.2 - Function Notation

15. ANS:
The relation is not a function. The graph of the equation is a circle with center at (3, 4) and a radius of 10. A graph of a circle does not pass the vertical line test.

PTS: 1 REF: Communication OBJ: 1.1 - Relations and Functions

16. ANS:
The domain and range have a lower limit because $350 was deposited in the account and there cannot be negative years. The relation is a function because each independent variable has a single, unique dependent variable.

PTS: 1 REF: Application OBJ: 1.1 - Relations and Functions

17. ANS:
$f\left(\frac{1}{12}\right) - g\left(\frac{1}{5}\right) = -21$

PTS: 1 REF: Application OBJ: 1.2 - Function Notation

18. ANS:
Range = {–60.6, –5.8, 9, 37.4, 63}

PTS: 1 REF: Application OBJ: 1.4 - Determining the Domain and Range of a Function

19. ANS:
Domain = $\{x \in \mathbf{R} \mid -2 \le x \le 6\}$, Range = $\{y \in \mathbf{R} \mid -1 \le y \le 3\}$; no, the relation is not a function.

PTS: 1 REF: Application OBJ: 1.4 - Determining the Domain and Range of a Function