Algebra 3-4 Name

Pd Date

**Unit 7 Radical Functions and Rational Exponents**

**Multiple Choice**

*Identify the choice that best completes the statement or answers the question.*

**Simplify.**

\_\_\_\_ 1. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. | 20 | d. | 1 |

\_\_\_\_ 2. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. | 4 | d. | 16 |

\_\_\_\_ 3. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 9 | c. | –28 |
| b. | 57 | d. | –18 |

\_\_\_\_ 4. Write  in simplest form.

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. | none of these |

**What is the solution of the equation?**

\_\_\_\_ 5. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 14 | b. | –8 | c. | 4 | d. | –6 |

\_\_\_\_ 6. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 14 | b. | 2 | c. | 26 | d. | 38 |

\_\_\_\_ 7. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | –16 | b. | –13 | c. | 13 | d. | –8 |

**Perform each function operation.**

\_\_\_\_ 8. Let  and . Find *f*(*x*)  *g*(*x*).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 10*x* – 8 | b. | 10*x* – 2 | c. | –2*x* – 8 | d. | –2*x* – 2 |

\_\_\_\_ 9. Let  and . Find  and its domain.

|  |  |
| --- | --- |
| a. | ; all real numbers except *x*  |
| b. | ; all real numbers |
| c. | ; all real numbers |
| d. | ; all real numbers except *x*  |

\_\_\_\_ 10. Let  and . Find  and its domain.

|  |  |
| --- | --- |
| a. | 3; all real numbers |
| b. | 3; all real numbers except *x*  2 |
| c. | 1; all real numbers |
| d. | –3; all real numbers except *x*  3 |

**Find the real-number root.**

\_\_\_\_ 11. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

**Multiply and simplify if possible.**

\_\_\_\_ 12. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. | not possible |

**What is the simplest form of the radical expression?**

\_\_\_\_ 13. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. | not possible to simplify |

\_\_\_\_ 14. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. | not possible to simplify |

\_\_\_\_ 15. A garden has width  and length. What is the perimeter of the garden in simplest radical form?

|  |  |  |  |
| --- | --- | --- | --- |
| a. | units | c. | 91 units |
| b. | units | d. | units |

**Level 3**

**Simplify the radical expression.**

\_\_\_\_ 16. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 17. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 18. What is  in simplest form?

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

**What is the solution of the equation?**

\_\_\_\_ 19. 

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. |  | b. |  | c. |  | d. |  |

**Find each expression.**

\_\_\_\_ 20. Let  and . Find f(g(x)).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 8*x* + 31 | b. | –2*x* – 4 | c. | –4*x* – 4 | d. | 8*x* – 13 |

\_\_\_\_ 21. Let  and . Find g(f(x)).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | *x*2 + 2 | b. | *x*2 + 4*x* + 4 | c. | *x*2 – 4*x* + 4 | d. | *x*2 + 4 |

**What is the inverse of the given relation?**

\_\_\_\_ 22. **

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 23. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 24. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 25. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

\_\_\_\_ 26. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. | none of these |

\_\_\_\_ 27. 

|  |  |  |  |
| --- | --- | --- | --- |
| a. |  | c. |  |
| b. |  | d. |  |

**Level 4**

\_\_\_\_ 28. Solve:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |

\_\_\_\_ 29. You have a coupon good for $6 off the price of any large pizza. You also get a 20% discount on any pizza if you show your student ID. How much more would you pay for a large pizza if the cashier applies the coupon first?