**Practice TEST UNIT 6**

**Multiple Choice**

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

**What is the sum or difference?**

\_\_\_\_ 1. 4*x*8 – 5*x*8

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 9*x*8 | b. | –1*x*16 | c. | –20*x*8 | d. | –1*x*8 |

**Write the polynomial in standard form. Then name the polynomial.**

\_\_\_\_ 2. 2 – 11*x*2 – 8*x* + 6*x*2

|  |  |
| --- | --- |
| a. | –5*x*2 – 8*x* + 2; trinomial |
| b. | –5*x*2 – 8*x*; binomial |
| c. | –6*x*2 – 8*x* – 2; monomial |
| d. | 6*x*2 – 8*x* + 2; cubicomial |

\_\_\_\_ 3. *g* – 3*g*3 + 7*g*2 – 9

|  |  |
| --- | --- |
| a. | 7*g*3 – 3*g*2 + *g* – 9; binomial |
| b. | –9 + *g* + 7*g*2 – 3*g*3 ; monomial |
| c. | –3*g*3 + 7*g*2 + *g* – 9; trinomial |
| d. | 3*g*3 – 7*g*2 + *g* – 9; cubicomial |

\_\_\_\_ 4. A biologist studied the populations of white-sided jackrabbits and black-tailed jackrabbits over a 5-year period. The biologist modeled the populations, in thousands, with the following polynomials where *x* is time, in years.

White-sided jackrabbits: 

Black-tailed jackrabbits: 

What polynomial models the total number of white-sided and black-tailed jackrabbits?

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

**Simplify the sum.**

\_\_\_\_ 5. (5*u*3 + 6*u*2 + 6) + (7*u*3 – 4*u* + 5)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 12*u*3 + 6*u*2 – 4*u* + 11 | c. | 11 – 4*u* + 6*u*2+ 12*u*3 |
| b. | –2*u*3 – 4*u*2 + 6*u* – 11 | d. | –2*u*3 + 6*u*2 – 4*u* + 11 |

**Simplify the difference.**

\_\_\_\_ 6. (7*w*2 – 7*w* – 8) – (3*w*2 + 6*w* – 3)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 4*w*2 – 13*w* – 5 | c. | 4*w*2 – *w* – 11 |
| b. | 10*w*2 + 13*w* + 5 | d. | 10*w*2 – *w* – 11 |

**Simplify the product.**

\_\_\_\_ 7. 2*n*(*n*2 + 3*n* + 4)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2*n*3 + 6*n*2 + 8*n* | c. | 2*n*3 + 6*n* + 8 |
| b. | 2*n*3 + 3*n* + 4 | d. | *n*2 + 5*n* + 4 |

**Find the GCF of the terms of the polynomial.**

\_\_\_\_ 8. 46*x*3 + 20*x*4

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | 20*x* | b. | *x*3 | c. | 2*x*3 | d. | 2*x*4 |

**Factor the polynomial.**

\_\_\_\_ 9. 14*w*6 + 16*w*4

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 2*w*4(7*w*2 + 8) | c. | 2*w*3(7*w*3 + 8*w*) |
| b. | *w*4(14*w*2 + 16) | d. | 2(7*w*6 + 8*w*4) |

**Simplify.**

\_\_\_\_ 10. 

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

**Simplify the product using a table.**

\_\_\_\_ 11. 

|  |  |  |
| --- | --- | --- |
|  |  | 6 |
|  |  |  |
| 2 |  |  |

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

\_\_\_\_ 12. (2*n*2 + 5*n* + 2)(2*n* – 3)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 4*n*3 + 4*n*2 – 11*n* – 6 | c. | 4*n*3 + 16*n*2 – 19*n* – 6 |
| b. | 4*n*3 + 11*n*2 – 4*n* – 6 | d. | 4*n*3 – 4*n*2 + 19*n* – 6 |

\_\_\_\_ 13. 

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

\_\_\_\_ 14. A square painting is surrounded by a frame. The outside edges of the frame are *x* inchesin length and there is a 5-inch border between the painting and the frame. What is the total area of the border?



|  |  |  |  |
| --- | --- | --- | --- |
| a. | –20*x* – 100 | c. | –10*x* + 25 |
| b. | *x*2 + 20*x* + 100 | d. | 20*x* – 100 |

\_\_\_\_ 15. (7*p* – 5)(7*p* + 5)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 49*p*2 + 70*p* + 25 | c. | 49*p*2 + 25 |
| b. | 49*p*2 – 70*p* – 25 | d. | 49*p*2 – 25 |

\_\_\_\_ 16. (4*m*2 – 2)(4*m*2 + 2)

|  |  |  |  |
| --- | --- | --- | --- |
| a. | 16*m*2 – 4 | c. | 16*m*3 – 4 |
| b. | 16*m*4 – 4 | d. | 16*m*4 + 4 |

\_\_\_\_ 17. *d*2 + 14*d* + 48

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (*d* + 6)(*d* + 8) | c. | (*d* – 6)(*d* – 8) |
| b. | (*d* + 6)(*d* – 8) | d. | (*d* – 6)(*d* + 8) |

\_\_\_\_ 18. *d*2 – 17*d* + 72

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (*d* + 9)(*d* + 8) | c. | (*d* – 9)(*d* – 8) |
| b. | (*d* – 9)(*d* + 8) | d. | (*d* + 9)(*d* – 8) |

\_\_\_\_ 19. *d*2 + 3*d* – 54

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (*d* – 6)(*d* – 9) | c. | (*d* + 6)(*d* – 9) |
| b. | (*d* + 6)(*d* + 9) | d. | (*d* – 6)(*d* + 9) |

\_\_\_\_ 20. The area of a rectangular garden is given by the trinomial *x*2 + 3*x* – 40. What are the possible dimensions of the rectangle? Use factoring.

|  |  |  |  |
| --- | --- | --- | --- |
| a. | *x* – 5and *x* – 8 | c. | *x* + 5and *x* + 8 |
| b. | *x* – 5and *x* + 8 | d. | *x* + 5 and *x* – 8 |

**What is the factored form of the following expressions?**

\_\_\_\_ 21. *x*2 + 2*xy* – 24*y*2

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (*x* – 6*y*)(*x* – 4*y*) | c. | (*x* + 6*y*)(*x* – 4*y*) |
| b. | (*x* + 6*y*)(*x* + 4*y*) | d. | (*x* – 6*y*)(*x* + 4*y*) |

**What is the factored form of the expression?**

\_\_\_\_ 22. 18*x*2 + 69*x* + 56

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (3*x* + 8)(6*x* + 7) | c. | (3*x* + 8)(6*x* – 7) |
| b. | (3*x* – 8)(6*x* + 7) | d. | (3*x* – 8)(6*x* – 7) |

**What is the factored form of the expression?**

\_\_\_\_ 23. **

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

**What is the factored form of the expression?**

\_\_\_\_ 24. *s*2 – 81

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (*s* – 9)(*s* + 11) | c. | (*s* – 9)(*s* – 9) |
| b. | (*s* – 9)(*s* + 9) | d. | (*s* + 9)(*s* + 9) |

**What is the factored form of the expression?**

\_\_\_\_ 25. 25*b*2 – 16

|  |  |  |  |
| --- | --- | --- | --- |
| a. | (5*b* + 4)(5*b* + 4) | c. | (4*b* + 5)(4*b* – 5) |
| b. | (5*b* – 4)(5*b* – 4) | d. | (5*b* + 4)(5*b* – 4) |

**Find the slope of the line.**

\_\_\_\_ 26. 

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

**What is the slope of the line that passes through the pair of points?**

\_\_\_\_ 27. (1, 8), (10, 0)

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

**What is the solution of the system? Use substitution.**

\_\_\_\_ 28. 



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a. | (2, 1) | b. | (3, 3) | c. | (2, –1) | d. | (–2, –16) |

**What is the simplified form of each expression?**

\_\_\_\_ 29. 

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

**What is the simplified form of each expression?**

\_\_\_\_ 30. 

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