8 CHAPTER TEST

Organizer

Objective: Assess students' mastery of concepts and skills in Chapter 8.

PREMIER **Online Edition**

Resources

Assessment Resources

Chapter 8 Tests

- Free Response (Levels A, B, C)
- Multiple Choice (Levels A, B, C)
- Performance Assessment

***IDEA Works!* CD-ROM**

Modified Chapter 8 Test

Test & Practice Generator

One-Stop Planner®

Answers

9. $(3 + 4c)(c - 5)$
10. $(5x^2 + 2)(2x - 5)$
11. $(y - 1)(4y^2 + 3)$
29. $8x(x + 4)(x + 5)$

8 CHAPTER TEST

Find the GCF of each pair of monomials.

1. $3t^4$ and $8t^2$ t^2
2. $2y^3$ and $-12y$ $2y$
3. $15n^5$ and $9n^4$ $3n^4$
4. Write the prime factorization of 360. $2^3 \cdot 3^2 \cdot 5$
5. A coin collector is arranging a display of three types of nickels. The types of nickels and number of each type are shown in the table. The collector wants to arrange them in rows with the same number in each row without having different types in the same row. How many rows will she need if she puts the greatest possible number of nickels in each row? 10 rows

Type of Nickel	Number of Nickels
Liberty	16
Buffalo	24
Jefferson	40

Factor each expression.

6. $24m^2 + 4m^3$ $4m^2(6 + m)$
7. $9x^5 - 12x$ $3x(3x^4 - 4)$
8. $-2r^4 - 6$ $-2(r^4 + 3)$
9. $3(c - 5) + 4c(c - 5)$
10. $10x^3 + 4x - 25x^2 - 10$
11. $4y^3 - 4y^2 - 3 + 3y$
12. A model rocket is shot vertically from a deck into the air at a speed of 50 m/s. The expression $-5t^2 + 50t + 5$ gives the approximate height of the rocket after t seconds. Factor this expression. $-5(t^2 - 10t - 1)$

Factor each trinomial.

13. $x^2 + 6x + 5$ $(x + 5)(x + 1)$
14. $x^2 - 4x - 21$ $(x - 7)(x + 3)$
15. $x^2 - 8x + 15$ $(x - 5)(x - 3)$
16. $2x^2 + 9x + 7$ $(2x + 7)(x + 1)$
17. $2x^2 + 9x - 18$ $(2x - 3)(x + 6)$
18. $-3x^2 - 2x + 8$ $-1(3x - 4)(x + 2)$

Determine whether each trinomial is a perfect square. If so, factor. If not, explain.

19. $a^2 + 14a + 49$ yes; $(a + 7)^2$
20. $2x^2 + 10x + 25$ No; $2x^2$ is not a perf. square.
21. $9t^2 - 6t + 1$ yes; $(3t - 1)^2$

Determine whether each binomial is a difference of two squares. If so, factor. If not, explain.

22. $b^2 - 16$ yes; $(b - 4)(b + 4)$
23. $25y^2 - 10$ No; 10 is not a perf. square.
24. $9a^2 - b^{10}$ yes; $(3a - b^5)(3a + b^5)$
25. A company is producing rectangular sheets of plastic. Each has an area of $(9x^2 + 30x + 25)$ ft^2. The dimensions of each sheet are of the form $ax + b$, where a and b are whole numbers. Find an expression for the perimeter of a sheet. Find the perimeter when $x = 4$ ft. $P = 4(3x + 5)$ ft; 68 ft

Tell whether each expression is completely factored. If not, factor it.

26. $(6x - 3)(x + 5)$ no; $3(2x - 1)(x + 5)$
27. $(v^5 + 10)(v^5 - 10)$ yes
28. $(2b + 3)(3b - 2)$ yes

Factor each polynomial completely.

29. $8x^3 + 72x^2 + 160x$ $3x^3(x - 3)(x + 3)$
30. $3x^5 - 27x^3$
31. $8x^3 + 64x^2 - 20x - 160$ $4(2x^2 - 5)(x + 8)$
32. $cd^4 - c^7d^6$ $cd^4(1 - c^3d)(1 + c^3d)$
33. $100x^2 - 80x + 16$ $4(5x - 2)^2$
34. $7m^8 - 7$ $7(m^4 + 1)(m^2 + 1)(m + 1)(m - 1)$