

CHAPTER
8 **Chapter Test**
Form B

1. Write the prime factorization of 176.

Find the GCF.

2. 54 and 144

3. $30x^2$ and $66x^5$

4. Mrs. Mendoza is organizing seating for a standardized test. 45 ninth-grade students and 120 tenth-grade students will take the test. Each row will have the same number of students, but ninth-graders and tenth-graders will not be seated in the same row. If she puts the greatest possible number of students in each row, how many rows will there be?

Factor.

5. $14y^3 + 28y^2 - 54y$

6. $n(2n + 3) + 4(2n - 3)$

7. Factor $15a^3 + 20a^2 - 6a - 8$ by grouping.

Factor each trinomial.

8. $x^2 + 9x + 18$

9. $x^2 + 7x - 30$

10. $x^2 - 5x - 50$

11. Find an integer value of b that makes $x^2 + bx + 42$ factorable, and then factor the trinomial.

$b =$ _____

Factor each trinomial.

13. $3x^2 + 47x + 140$

14. $27a^2 + 42a - 5$

15. Determine whether each value of c makes $5x^2 - 22x + c$ factorable. If so, factor it.

$c = -15$ _____

$c = 4$ _____

$c = 8$ _____

Answer Key continued

Chapter Test Form B

1. $2^4 \cdot 11$
2. 18
3. $6x^2$
4. 11 rows
5. $2y(7y^2 + 14y - 27)$
6. cannot be factored
7. $(3a + 4)(5a^2 - 2)$
8. $(x + 6)(x + 3)$
9. $(x - 3)(x + 10)$
10. $(x + 5)(x - 10)$
11. 43, $(x + 1)(x + 42)$; 23, $(b + 2)(b + 21)$; 17, $(b + 3)(b + 14)$; 13, $(b + 6)(b + 7)$
12. $18x^2 + 21x + 5 = (3x + 1)(6x + 5)$
13. $(x + 4)(3x + 35)$
14. $(3a + 5)(9a - 1)$
15. $(x - 5)(5x + 3)$; cannot be factored; $(x - 4)(5x - 2)$
16. no; $72n \neq 2(n \cdot 6)$
17. yes; $(3x - 5)^2$
18. no; 132 is not a perfect square.
19. yes; $(4x + 7)(4x - 7)$
20. $8z - 36$; 44 ft
21. no; $x(x + 4)(4x + 3)$
22. $2x^3(x - 8)(2x + 1)$
23. $(m + 3)(m - 3)(2m + 3)$