NAME key DATE _____ PERIOD _____

Chapter 10 Mid-Chapter Practice Test

SCORE _____

(Lessons 10-1 through 10-4)

Part I *Write the letter for the correct answer in the blank at the right of each question.*

1. Which expression has a range of $\{y \mid y \geq 2\}$?
A $y = \sqrt{x-2}$ B $y = \sqrt{x+2}$ C $y = \sqrt{x} - 2$ D $y = \sqrt{x} + 2$ — 1. D

2. Which expression has a domain of $\{x \mid x \geq 1\}$?
F $y = \sqrt{x-1}$ G $y = \sqrt{x+1}$ H $y = \sqrt{x} - 1$ J $y = \sqrt{x} + 1$ — 2. F

For Questions 3–5, simplify each expression.

3. $\sqrt{242}$ — 3. $11\sqrt{2}$

4. $\sqrt{50x^2y^3}$ — 4. $5xy\sqrt{2y}$

5. $\sqrt{\frac{t}{12}}$ — 5. $\frac{\sqrt{3t}}{6}$

6. Solve $\sqrt{9n-2} - n = 2$. — 6. $n = 2, 3$

7. Solve $\sqrt{3b-7} = \sqrt{9-b}$ — 7. $b = 4$

Part II

Simplify each expression.

8. $\sqrt{14}\,(3\sqrt{2} - 5\sqrt{7})$ — 8. $6\sqrt{7} - 35\sqrt{2}$

9. $(4\sqrt{3} + 5)(4\sqrt{3} - 5)$ — 9. 23

10. $\sqrt{242} + 3\sqrt{162}$ — 10. $38\sqrt{2}$

11. $7\sqrt{3} - 4\sqrt{6} - \sqrt{3}$ — 11. $6\sqrt{3} - 4\sqrt{6}$

12. $3\sqrt{32} - 2\sqrt{128} + \sqrt{98}$ — 12. $7\sqrt{2}$

For Questions 13 and 14, solve each equation.

13. $3\sqrt{3x} - 2 = 10$ — 13. $x = 16/3$

14. $\sqrt{x-4} = x - 9$ — 14. $x = 7, 12$

15. A square has an area of 75 square inches. The formula for the area A of a square with side length ℓ is $A = \ell^2$. Find the length of one side of the square. — 15. $\ell = 5\sqrt{3}$