

Name _____

Instructor _____

Date _____

SHOW YOUR WORK!

The skills needed to complete this worksheet are required for our work in Chapter 8. Please seek help as soon as possible if you have difficulty completing any of these sections.

Learning Objectives

- A. Find the square root of a number.
- B. Write a number as a product of prime factors.
- C. Use the product rule for exponents.
- D. Use the quotient rule for exponents.
- E. Multiply two polynomials.

OBJECTIVE A: Find the square root of a number.

1. $\sqrt{36}$

2. $\sqrt{64}$

3. $\sqrt{\frac{16}{25}}$

4. $\sqrt{\frac{1}{81}}$

OBJECTIVE B: Write a number as a product of prime factors. (See Examples 4–5, page R-3)

Write the prime factorization of each number.

5. 18

6. 24

7. 45

8. 60

9. 72

10. 96

Objective C: Use the product rule for exponents. (See Examples 8–13, page 181)

Simplify each expression.

11. $y^2 \cdot y^4$

12. $(4x^3)(5x^5)$

13. $(2ab^2)(2a^2b)$

14. $(3x^3y^2)(6x^4y^3)$

Objective D: Use the quotient rule for exponents. (See Examples 24–27, page 185)

Simplify each expression.

15. $\frac{24xy^3}{6xy}$

16. $\frac{5x}{45x^3}$

17. $\frac{63a^2b^3}{7b}$

18. $\frac{6y^3}{96y}$

Objective E: Multiply two polynomials. (See Section 3.5, page 217)

Multiply.

19. $10a(2a + 5)$

20. $6y(2 - 3y)$

21. $(x + 6)(x - 6)$

22. $(2a + 3)(2a - 3)$

23. $(b + 5)^2$

24. $(4x + 1)(x - 1)$