Name: **Date:**
Instructor: **Section:**

Chapter 5 Test Form A

Simplify each expression. Write with positive exponents.

1. $\left(3x^2\right)\left(2x^{-4}\right)\left(6x\right)^{-3}$ **1.** _____

2. $\left(\dfrac{2x^{-4}y^3}{3xy^2}\right)^{-2}$ **2.** _____

3. $\dfrac{\left(4ab^2\right)^{-1}\left(8a^{-1}b^3\right)^2}{2a^{-2}b^{-3}}$ **3.** _____

4. Write in scientific notation. 362,000 **4.** _____

5. Write without exponents. 2.3×10^{-5} **5.** _____

6. Use scientific notation to find the quotient. **6.** _____

$$\frac{(0.036)(0.00008)}{0.0064}$$

Perform the indicated operations.

7. $\left(2x^2-4x+8\right)-\left(x^2+3x-2\right)$ **7.** _____

8. $\left(5x^3y+2x-3\right)+\left(2x^3y+4\right)$ **8.** _____

9. $-2x^3y\left(2x^2-4x+4\right)$ **9.** _____

10. $\left(2x-3\right)\left(4x+5\right)$ **10.** _____

11. $\left(4x-5\right)^2$ **11.** _____

12. $\left(3x-1\right)\left(x^2-2x-3\right)$ **12.** _____

13. $\left(2x-3\right)\left(2x+3\right)$ **13.** _____

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Chapter 5 Test Form A *cont'd*

Factor each polynomial completely.

14. $6x^3y - 21x^2y^2$ **14.** _____

15. $2x^2 + 10x - 12$ **15.** _____

16. $9x^2 + 24x + 16$ **16.** _____

17. $27x^2 - 12y^2$ **17.** _____

18. $5x^2 + 18x - 8$ **18.** _____

19. $x^3 + 8$ **19.** _____

20. $2x^2 - 6x + xy - 3y$ **20.** _____

Solve each equation.

21. $-6(x-3)(2x+7) = 0$ **21.** _____

22. $(x+2)(x-1) = -2(x-4)$ **22.** _____

23. $x^3 - 7x^2 + 12x = 0$ **23.** _____

24. The sum of twice a number and its square is 24. Find the number. **24.** _____

25. One number exceeds another number by 9, and their product is 112. Find the numbers. **25.** _____

Test 5 – A

1. $\frac{1}{36x^5}$
2. $\frac{9x^{10}}{4y^2}$
3. $\frac{8b^7}{a}$
4. 3.62×10^5
5. 0.000023
6. 4.5×10^{-4}
7. $x^2-7x+10$
8. $7x^3y+2x+1$
9. $-4x^5y+8x^4y-8x^3y$
10. $8x^2-2x-15$
11. $16x^2-40x+25$
12. $3x^3-7x^2-7x+3$
13. $4x^2-9$
14. $3x^2y(2x-7y)$
15. $2(x-1)(x+6)$
16. $(3x+4)^2$
17. $3(3x-2y)(3x+2y)$
18. $(5x-2)(x+4)$
19. $(x+2)(x^2-2x+4)$
20. $(2x+y)(x-3)$
21. $-\frac{7}{2}$,3
22. –5, 2
23. 0, 3, 4
24. –6, 4
25. 7 and 16, or –7 and –16