

Name

Loma

Date

Class

CHAPTER

7

Chapter Test

Form A

1. Simplify 3^{-2} .

2. Evaluate x^{-2} for $x = -6$.

3. Simplify $8a^0$.

4. Write 100,000 as a power of 10.

5. In 2000, the population of Forest, Virginia, was about 8,000 people. Write this population in scientific notation.

6. Write 5×10^{-4} in standard form.

Simplify.

7. $5^2 \cdot 5^3$

8. $(4^3)^2$

9. $(ab^4)^3$

10. Mrs. Wilson earns about $\$1.3 \times 10^3$ every week. About how much will she earn after working for 1000 weeks? Write your answer in scientific notation.

Simplify.

11. $\frac{2^6}{2^3}$

12. $\left(\frac{2}{3}\right)^3$

13. $\left(\frac{3}{4}\right)^{-2}$

CHAPTER 7 **Chapter Test**
Form A continued

14. Simplify the quotient $(6 \times 10^{12}) \div (3 \times 10^4)$. Write the answer in scientific notation.

15. Write the polynomial $5x - 2x^3 + 8x^2 - 7$ in standard form.

16. Classify the polynomial $4x^3 - x$ according to its degree.

17. Evaluate $-2w^2 + 5$ for $w = 4$.

18. Add $(x^2 + 7) + (4x^2 - 3)$.

19. Subtract $(7a^3 + 5a) - (4a^3 + 4a)$.

20. Multiply $(6r^4)(3r^2)$.

21. A rectangle has width w and its length is 5 units less than the width, or $w - 5$. Write a polynomial for the area of the rectangle.

Multiply.

22. $(x + 5)(x + 2)$

23. $(b + 2)(b^2 + 5b + 6)$

24. $(x - 5)(x + 5)$

25. $(x + 3)^2$

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CHAPTER
7 **Chapter Test**
Form B

1. Simplify 4^{-3} .

2. Evaluate $(5 - x)^{-2}$ for $x = -1$.

3. Simplify $5b^{-8}$.

4. Write 0.0000001 as a power of 10.

5. In 2000, the population of Indiana was about 6,080,000 people. Write this population in scientific notation.

6. Write 8.5×10^{-7} in standard form.

Simplify.

7. $y^7 \cdot y^3$

8. $(x^{20})^4$

9. $(2a^3)^5$

10. A computer modem can transmit 1.5×10^6 bytes per second. How many bytes can it transmit in 300 seconds? Write your answer in scientific notation.

Simplify.

11. $\frac{a^{16}}{a^4}$

12. $\left(\frac{4y^6}{x^3}\right)^2$

13. $\left(\frac{2}{b^5}\right)^{-3}$

CHAPTER 7 **Chapter Test**
Form B continued

14. Simplify the quotient $(6.4 \times 10^9) \div (1.6 \times 10^{-3})$. Write the answer in scientific notation.

15. When the polynomial $5x - 2x^3 + 8x^2 - 7$ is written in standard form, what is the leading coefficient?

16. Classify the polynomial $5x^2 + 9x + 1$ according to its degree and number of terms.

17. Genie has 100 feet of fence with which to make a rectangular cage for her rabbit. If she uses the wall of her house as one side, the area of the cage in square feet is given by the polynomial $-2w^2 + 100w$, where w is the width of the cage in feet. What is the area of the cage if the width is 15 feet?

18. Add $(5x^2 - 2x + 9) + (2x^2 - 4)$.

19. Subtract $(10a^2 - 6a) - (7a^2 - 8a)$.

20. Multiply $(-5rs^4)(3r^5s^2)$.

21. A rectangle has width w and its length is 4 units longer than 2 times the width, or $2w + 4$. Write a polynomial for the area of the rectangle.

Multiply.

22. $(x + 6)(3x - 8)$

23. $(b - 4)(b^2 + 3b - 2)$

24. $(3x - 4)^2$

25. $(2x + 4)(2x - 4)$

Answer Key continued

- 11. B
- 12. H
- 13. C
- 14. G
- 15. A
- 16. J
- 17. B
- 18. G
- 19. B
- 20. J
- 21. B
- 22. J
- 23. B
- 24. J
- 25. D

Chapter Test Form C

- 1. B
- 2. G
- 3. C
- 4. F
- 5. B
- 6. G
- 7. C
- 8. F
- 9. C
- 10. G
- 11. B
- 12. J
- 13. A
- 14. G
- 15. C
- 16. F

- 17. A
- 18. G
- 19. B
- 20. J
- 21. B
- 22. H
- 23. C
- 24. H
- 25. D

Chapter Test Form A

- 1. $\frac{1}{9}$
- 2. $\frac{1}{36}$
- 3. 8
- 4. 10^5
- 5. 8×10^3
- 6. 0.0005
- 7. 5^2 or 3125
- 8. 4^6 or 4096
- 9. a^3b^{12}
- 10. 1.3×10^6
- 11. 8
- 12. $\frac{8}{27}$
- 13. $\frac{16}{9}$
- 14. 2×10^8
- 15. $-2x^3 + 8x^2 + 5x - 7$
- 16. cubic
- 17. -27
- 18. $5x^2 + 4$
- 19. $3a^3 + a$
- 20. $18r^6$
- 21. $w^2 - 5w$
- 22. $x^2 + 7x + 10$

Answer Key continued

23. $b^3 + 7b^2 + 16b + 12$

24. $x^2 - 25$

25. $x^2 + 6x + 9$

Chapter Test Form B

1. $\frac{1}{64}$

2. $\frac{1}{36}$

3. $\frac{5}{b^8}$

4. 10^{-7}

5. 6.08×10^6

6. 0.00000085

7. y^{10}

8. x^{80}

9. $32a^{15}$

10. 4.5×10^8

11. a^{12}

12. $\frac{16y^{12}}{x^6}$

13. $\frac{b^{15}}{8}$

14. 4×10^{12}

15. -2

16. quadratic trinomial

17. 1050 ft^2

18. $7x^2 - 2x + 5$

19. $3a^2 + 2a$

20. $-15r^6s^6$

21. $2w^2 + 4w$

22. $3x^2 + 10x - 48$

23. $b^3 - b^2 - 14b + 8$

24. $9x^2 - 24x + 16$

25. $4x^2 - 16$

Chapter Test Form C

1. $-\frac{1}{125}$

2. $\frac{1}{2}$

3. $\frac{12}{a^2}$

4. 10^{-19}

5. 2.1×10^{-3}

6. 98,030,000,000,000,000

7. y^9

8. $\frac{1}{x^8}$

9. ab^{12}

10. 1.9×10^7

11. $a^{10}b^6$

12. $\frac{y^6}{x^9}$

13. $\frac{b^{20}}{27a^{14}}$

14. 2.5×10^{20}

15. -1

16. quintic polynomial

17. 49 ft

18. $2.3x^3 + 2x^2 + 0.9$

19. $7a^4 - 10a^3 + a^2 + 8$

20. $-60r^{12}s^6$

21. $3h^2 + 2h$

22. $28x^2 - 19x - 20$

23. $8b^3 - 12b^2 + 6b - 1$

24. $25x^2 + 30xy + 9y^2$

25. $16p^4 - 36q^2$

Performance Assessment

1. 35 trillion

2. 425 thousand

3. 9.5 million