

Name _____

Date _____

Additional Exercises 6.7
Form I
Negative Exponents and Scientific Notation

Write the expression with positive exponents only. Then simplify, if possible.

1. -3^{-2} 1. _____

2. $3^{-1} + 2^{-1}$ 2. _____

3. $\frac{3^{-3}}{4^{-2}}$ 3. _____

4. $\frac{1}{2x^{-2}}$ 4. _____

Simplify the expression.

5. $x^{-8} \cdot x^3$ 5. _____

6. $2x^{-1}$ 6. _____

7. $\frac{6p^{-6}}{5}$ 7. _____

8. $x^4 y^{-10}$ 8. _____

9. $\frac{8}{x^{-2}}$ 9. _____

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Write the number in decimal notation with the use of exponents.

10. 1.25×10^3 10. _____

11. 3.957×10^{-2} 11. _____

12. 2.0351×10^{-4} 12. _____

13. 4.7×10^0 13. _____

Write the number in scientific notation.

14. 34.18 14. _____

15. 19,000 15. _____

16. 0.0014 16. _____

17. $\frac{6 \times 10^5}{2 \times 10^3}$ 17. _____

18. $(1 \times 10^2)(2 \times 10^{-3})$ 18. _____

19. $(3 \times 10^2)^2$ 19. _____

20. A bacterium measures 0.000000251 centimeters. Rewrite the number in scientific notation. 20. _____

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Additional Exercises 6.7
Form II
Negative Exponents and Scientific Notation

Write the expression with positive exponents only. Then simplify, if possible.

1. $-(4)^{-2}$ 1. _____

2. $\frac{1}{23} \cdot \frac{1}{(4)^{-2}}$ 2. _____

3. $\frac{(4)^{-2}}{(5)^{-2}}$ 3. _____

4. $\frac{1}{3x^{-3}}$ 4. _____

Simplify the expression.

5. $x^{-7} \cdot x^5$ 5. _____

6. $\frac{12x^2}{6x^6}$ 6. _____

7. $\frac{5p^{-7}}{2p^3}$ 7. _____

8. $(x^{-1}y^6)^{-2}$ 8. _____

9. $\frac{(3x^4)^3}{x^{15}}$ 9. _____

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Write the number in decimal notation with the use of exponents.

10. 1.18×10^7 10. _____

11. 7.36×10^{-4} 11. _____

12. 1.0483×10^{-7} 12. _____

13. 4.48×10^0 13. _____

Write the number in scientific notation.

14. 697.35 14. _____

15. 65,000,000 15. _____

16. 0.00007948 16. _____

17. $\frac{8 \times 10^{-9}}{2 \times 10^{-6}}$ 17. _____

18. $(4 \times 10^3)(2 \times 10^{-6})$ 18. _____

19. $(2 \times 10^3)^2$ 19. _____

20. A bacterium measures 0.0000000896 centimeters. Rewrite the number in scientific notation. 20. _____

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Additional Exercises 6.7
Form III
Negative Exponents and Scientific Notation

Write the expression with positive exponents only. Then simplify, if possible.

1. -6^{-3} 1. _____

2. $8^{-1} + 11^{-1}$ 2. _____

3. $\frac{5^{-3}}{7^{-3}}$ 3. _____

4. $\frac{1}{8x^{-6}}$ 4. _____

Simplify the expression.

5. $x^{-11} \cdot x^9$ 5. _____

6. $\frac{18x^5}{3x^9}$ 6. _____

7. $\frac{7p^{-9}}{3p^2}$ 7. _____

8. $(x^{-3}y^4)^{-2}$ 8. _____

9. $\frac{(5x^6)^3}{x^{12}}$ 9. _____

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Write the number in decimal notation with the use of exponents.

10. 3.05×10^4 10. _____

11. 9.18×10^{-3} 11. _____

12. 1.1936×10^{-8} 12. _____

13. 5.7×10^0 13. _____

Write the number in scientific notation.

14. 1045.7 14. _____

15. 29,000,000,000 15. _____

16. 0.0000057 16. _____

17. $\frac{16 \times 10^{-8}}{4 \times 10^{-6}}$ 17. _____

18. $(6 \times 10^4)(3 \times 10^{-2})$ 18. _____

19. $(5 \times 10^{-3})^4$ 19. _____

20. A bacterium measures 0.00000077 centimeters. Rewrite the number in scientific notation. 20. _____