Name _____ Date _____ Class _____

LESSON **Practice A**

Integer Exponents

Simplify.

1. $3^{-2} = \frac{1}{3^2} = \frac{1}{\_\_ \cdot \_\_} = \frac{1}{\_\_}$

2. $2^{-4} = \frac{1}{2^4} = \frac{1}{\_\_ \cdot \_\_ \cdot \_\_ \cdot \_\_} = \frac{1}{\_\_}$

3. $(-3)^{-3} = \frac{1}{(\_\_)^3} = \frac{1}{\_\_ \cdot \_\_ \cdot \_\_} = \frac{1}{\_\_}$

4. $(-1)^{-5} = \frac{1}{(\_\_)^5} = \frac{1}{\_\_ \cdot \_\_ \cdot \_\_ \cdot \_\_ \cdot \_\_} = \frac{1}{\_\_} = \_\_$

5. $-(7.2)^0$ _____

6. $(4)^{-3}$ _____

Evaluate each expression for the given value(s) of the variable(s).

7. x^{-2} for $x = 3$

$(3)^{-2} = \frac{1}{(\_\_)^2} = \frac{1}{\_\_}$

8. m^0n^{-3} for $m = 2$ and $n = 3$

$(\_\_)^0(\_\_)^{-3} = (\_\_) \cdot \frac{1}{(\_\_)^3}$

$= \_\_$

9. $5r^{-4}$ for $r = -2$

$5(\_\_)^{-4} = 5 \cdot \frac{1}{(\_\_)^-}$

$= 5 \cdot \frac{1}{\_\_ \cdot \_\_ \cdot \_\_ \cdot \_\_}$

$= 5 \cdot \frac{1}{\_\_} = \_\_$

Simplify.

10. $4x^{-3}$ _____

11. $\frac{5}{b^{-2}}$ _____

12. $\frac{m^3n^{-4}}{p^0}$ _____

13. $\frac{k^{-4}}{2}$ _____

14. $\frac{f^4}{g^{-1}}$ _____

15. $\frac{r^6t^0}{s^{-2}}$ _____

16. The weight of a silver charm is 2^{-2} grams. Evaluate this expression. _____

17. There are about 10^4 different species of birds on Earth. Just over 10^3 of them are threatened. Evaluate both expressions. _____

Name _____ Date _____ Class _____

LESSON

Practice B

Integer Exponents

Simplify.

1. $5^{-3} = \frac{1}{\quad} = \frac{1}{\quad}$

2. $2^{-6} = \frac{1}{\quad} = \frac{1}{\quad}$

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

4. $-(4)^{-3}$ _____

5. -6^{0} _____

6. $(7)^{-2}$ _____

Evaluate each expression for the given value(s) of the variable(s).

7. d^{-3} for $d = -2$ _____

8. $a^{5}b^{-6}$ for $a = 3$ and $b = 2$ _____

9. $(b - 4)^{-2}$ for $b = 1$ _____

10. $5z^{-x}$ for $z = -3$ and $x = 2$ _____

11. $(5z)^{-x}$ for $z = -3$ and $x = 2$ _____

12. $c^{-3}\,(16^{-2})$ for $c = 4$ _____

Simplify.

13. t^{-4} _____

14. $3r^{-5}$ _____

15. $\frac{s^{-3}}{t^{-5}}$ _____

16. $\frac{h^{0}}{3}$ _____

17. $\frac{2x^{-3}y^{-2}}{z^{4}}$ _____

18. $\frac{4fg^{-5}}{5h^{-3}}$ _____

19. $\frac{14a^{-4}}{20bc^{-1}}$ _____

20. $\frac{a^{4}c^{2}e^{0}}{b^{-1}d^{-3}}$ _____

21. $\frac{-3g^{-2}hk^{-2}}{-6h^{0}}$ _____

22. A cooking website claims to contain 10^{5} recipes. Evaluate this expression. _____

23. A ball bearing has diameter 2^{-3} inches. Evaluate this expression. _____