

LESSON
7.3**Practice A***For use with the lesson "Define and Use Zero and Negative Exponents"***Match the equivalent expressions.**

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

2. $2^{-2} \cdot 3^{-2}$

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

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

B. $\frac{4}{9}$

C. $\frac{9}{4}$

Evaluate the expression.

4. 5^{-3}

5. 8^{-2}

6. 2^{-5}

7. $(-3)^{-4}$

8. $(-9)^{-1}$

9. 6^0

10. $(-5)^0$

11. $\left(\frac{1}{2}\right)^0$

12. $\left(\frac{1}{6}\right)^{-2}$

13. $\left(\frac{3}{4}\right)^{-1}$

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

15. 0^{-2}

Simplify the expression. Write your answer using only positive exponents.

16. x^{-5}

17. m^{-9}

18. $6y^{-3}$

19. $8a^{-10}$

20. $(3b)^{-4}$

21. x^3y^{-2}

22. $x^{-4}y^3$

23. $a^{-1}b^{-2}$

24. $2x^{-3}y^1$

25. Finger Thickness Your friend tells you that her finger is $\left(\frac{4}{3}\right)^{-1}$ inch thick. Evaluate the expression that represents the thickness of your friend's finger.

26. Floor Tile The minimum recommended width of the space between 6-inch by 6-inch tiles is 2^{-2} inch and the maximum recommended width is 2^{-1} inch. Simplify the expressions for the minimum and maximum widths of the space between the 6-inch by 6-inch floor tiles.

27. Hole Punch Your hole punch makes holes in your paper that have a diameter of 4^{-1} inch.

- Write an expression for the area of one punched hole. Use the formula for the area of a circle $A = \pi r^2$.
- Your hole punch makes three holes in a page. Write an expression for the total area punched out of one sheet of paper.