

# Family Support Grades 9–12

Give your students the support they need to succeed in math.  
**Concepts & Connections for California** includes QR codes in the Student Edition that link to videos, practice, and lesson content at point of use.

## QR Code Support

Students have direct access to support right when they need it. By scanning QR codes placed throughout the Student Edition, they can launch their digital experience and find lesson content, interactive practice, and instructional videos tied to what they're learning. This targeted support helps reinforce understanding and encourages independent learning, whether at home or in class.

## 6.1 Practice

with  
Calc Chat and Calc oView

Evaluate the expression. (See Example 1.)

1.  $(-7)^0$

2.  $4^0$

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

4.  $\frac{5^{-1}}{-9^0}$

▶ 5.  $\frac{2^{-6}}{4^0}$

6.  $\frac{(-8)^{-2}}{3^{-4}}$

Simplify the expression. Write your answer using only positive exponents. (See Example 2.)

7.  $x^{-7}$

8.  $15c^{-8}d^0$

9.  $\frac{2^{-2}m^{-3}}{n^0}$

10.  $\frac{10^0r^{-11}s}{3^2}$

▶ 11.  $\frac{4^{-3}d^0}{b^{-7}}$

12.  $\frac{p^{-8}}{7^{-2}q^{-9}}$

Simplify the expression. Write your answer using only positive exponents. (See Example 3.)

13.  $\frac{(-6)^8}{(-6)^5}$

14.  $(-9)^2 \cdot (-9)^2$

15.  $4^{-5} \cdot 4^5$

16.  $(s^{-5})^3$

▶ 17.  $6^{-10} \cdot 6^5$

18.  $-7 \cdot (-7)^{-4}$

19. A microscope magnifies an object  $10^5$  times. The length of an object is  $10^{-7}$  meter. What is its magnified length?


20. A seed from an orchid has a mass of  $10^{-6}$  gram. The mass of a seed from a double coconut palm is  $10^{10}$  times the mass of the seed from the orchid. What is the mass of the seed from the double coconut palm in kilograms? (1 kg =  $10^3$  g)

**MP.3 ERROR ANALYSIS** Describe and correct the error in simplifying the expression.

21.

  $2^4 \cdot 2^5 = (2 \cdot 2)^{4+5}$   
 $= 4^9$

22.

  $\frac{x^5 \cdot x^3}{x^4} = \frac{x^8}{x^4}$   
 $= x^{8/4}$   
 $= x^2$

Simplify the expression. Write your answer using only positive exponents. (See Example 4.)

23.  $(-5z)^3$

24.  $\left(\frac{6}{n}\right)^{-2}$

▶ 25.  $(3s^8)^{-5}$

26.  $(-8p^3)^3$

27.  $\left(-\frac{w^3}{9}\right)^{-2}$

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



RESOURCES



RESOURCES

## CalcChat® and CalcView®

With CalcChat®, students benefit from worked-out solution videos and live virtual tutor support for select exercises in the Getting Ready, Practice, and Chapter Review. Find the teal arrows in the Student Edition which indicate support is available! With CalcView®, students can view instructor videos as they work through select problems to support comprehension and the understanding of concepts.

## CalcChat



▶ 5.  $\frac{2^{-6}}{4^0}$

## CalcView



### 6.1 Practice

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Evaluate the expression. (See Example 1.)

1. $(-7)^2$	2. $4^3$	3. $(-2)^{-4}$
4. $\frac{5^{-1}}{-9^0}$	▶ 5. $\frac{2^{-6}}{4^0}$	6. $\frac{(-8)^{-2}}{3^{-4}}$

Simplify the expression. Write your answer using only positive exponents. (See Example 2.)

7. $x^{-5}$	8. $15x^{-3}y^0$	9. $\frac{2^{-2}xy^{-2}}{y^3}$
10. $\frac{10^2x^{-10}y}{3^2}$	▶ 11. $\frac{4^{-3}y^2}{8^{-2}}$	12. $\frac{6^{-4}}{3^6y^0}$

Simplify the expression. Write your answer using only positive exponents. (See Example 3.)

13. $\frac{(-8)^2}{(-4)^3}$	14. $(-9)^2 \div (-9)^3$	15. $4^{-5} \div 4^3$
16. $(-7)^3$	▶ 17. $6^{-10} \div 6^3$	18. $-7 \div (-7)^{-4}$



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