Independent Practice

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Write each expression using exponents. (Examples 1 and 2)

1. $(-5)(-5)(-5)(-5) =$ $(-5)^4$

2. $3 \cdot 3 \cdot 5 \cdot q \cdot q \cdot q =$ $3^2 \cdot 5 \cdot q^3$

3. $m \cdot m \cdot m \cdot m \cdot m =$ m^5

Evaluate each expression. (Example 3)

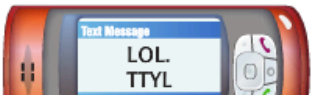
4. $(-9)^4 =$ 6,561

5. $\left(\frac{1}{3}\right)^4 =$ $\frac{1}{81}$

6. $\left(\frac{5}{7}\right)^3 =$ $\frac{125}{343}$

7. In the United States, nearly $8 \cdot 10^9$ text messages are sent every month. About how many text messages is this?

(Example 4) **8,000,000,000 or 8 billion**



8. Interstate 70 stretches almost $2^3 \cdot 5^2 \cdot 11$ miles across the United States. About how many miles long is Interstate 70?

(Example 4) **2,200 mi**

Evaluate each expression. (Examples 5 and 6)

9. $g^5 - h^3$ if $g = 2$ and $h = 7$ **−311**

10. $c^2 + d^3$, if $c = 8$ and $d = -3$ **37**

11. $a^2 \cdot b^6$ if $a = \frac{1}{2}$ and $b = 2$ **16**

12. $(r - s)^3 + r^2$ if $r = -3$ and $s = -4$ **10**