Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_

**Homework #1 - Due Friday 9/14**

**Directions:** Write the following expressions in exponential form.

1. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D%5Cleft(-5%5Cright)%5Cleft(-5%5Cright)%5Cleft(-5%5Cright)%5Cleft(-5%5Cright)) 2. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D3%5Ccdot3%5Ccdot5%5Ccdot%20q%5Ccdot%20q%5Ccdot%20q)

**Directions:** Write the following expressions in expanded form.

 3. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D%5Cleft(-9%5Cright)%5E4) 4. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D%5Cleft(%5Cfrac%7B5%7D%7B7%7D%5Cright)%5E3)

 5. Interstate 70 stretches almost [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D2%5E3%5Ccdot5%5E2%5Ccdot11) miles across the United States. About how many miles long is
 Interstate 70?

**Directions:** Evaluate each expression using a calculator. Show your substitution!

 6. When [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dc%3D2) and [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dd%3D-3) 7. When [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dp%3D2) and [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dr%3D-3)

 [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dc%5E3%2Bd%5E2) [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D%5Cleft(p-r%5Cright)%5E2%2Br%5E2)

 8. When [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Da%3D2) and [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Db%3D-3) 9. When [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7De%3D5) and [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Di%3D4)

 [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Db%5E4-%5Cleft(b-a%5Cright)%5E3) [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7De%5E3-i)

 10. When [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dm%3D6) and [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dn%3D2)

 [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dm%5E2-n%5E3)

**Directions:** Simplify.

 11. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dt%5E7%5Ccdot%20t%5E6) 12. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D2w%5E2%5Ccdot5w%5E2) 13. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D3d%5E3%5Ccdot7e%5E3)

 14. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D4r%5E4%5Cleft(-4r%5E3%5Cright)) 15. [](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D%5Cleft(10t%5E4v%5E5%5Cright)%5Cleft(3t%5E2v%5E5%5Cright))