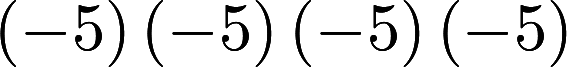
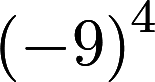
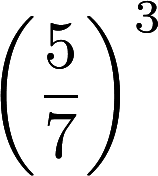
Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_

**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. [3 times 3 times 5 times q times q times q](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D3%5Ccdot3%5Ccdot5%5Ccdot%20q%5Ccdot%20q%5Ccdot%20q)

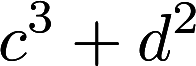
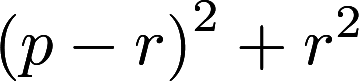
**Directions:** Write the following expressions in expanded form.

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)

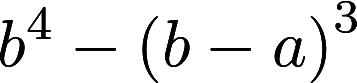
5. Interstate 70 stretches almost [2 cubed  times 5 squared  times 11](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D2%5E3%5Ccdot5%5E2%5Ccdot11) miles across the United States. About how many miles long is  
 Interstate 70?

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

6. When [c equals 2](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dc%3D2) and [d equals minus 3](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dd%3D-3) 7. When [p equals 2](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dp%3D2) and [r equals minus 3](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 [a equals 2](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Da%3D2) and [b equals minus 3](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Db%3D-3) 9. When [e equals 5](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7De%3D5) and [i equals 4](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Di%3D4)

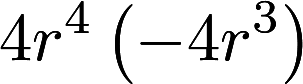
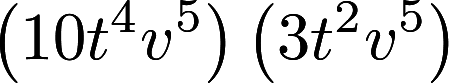
[](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Db%5E4-%5Cleft(b-a%5Cright)%5E3) [e cubed  minus i](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7De%5E3-i)

10. When [m equals 6](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dm%3D6) and [n equals 2](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dn%3D2)

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

**Directions:** Simplify.

11. [t super 7  times t super 6 ](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7Dt%5E7%5Ccdot%20t%5E6) 12. [2 w squared  times 5 w squared ](http://api.gmath.guru/cgi-bin/gmath?%5Cdpi%7B480%7D2w%5E2%5Ccdot5w%5E2) 13. [3 d cubed  times 7 e cubed ](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))