

Name:

Date:

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1. (a)  $\boxed{159975}$   
(b)  $\boxed{3600}$   
(c)  $\boxed{89700}$   
(d)  $\boxed{3996001}$   
(e)  $\boxed{2500}$
  
2. (a)  $\boxed{9x^2 + 6x + 1}$   
(b) Use the rule  $(a - b)^2 = a^2 - 2ab + b^2$  with  $a = 5x, b = 3y$ :  
 $(5x - 3y)^2 = (5x)^2 - 2(5x)(3y) + (3y)^2 = \boxed{25x^2 - 30xy + 9y^2}$   
(c)  $\boxed{9x^2 - 1}$   
(d)  $\boxed{x^2 + y^2 + z^2 + 2xy + 2xz + 2yz}$
  
3. (a)  $\boxed{3x^2 + 15xy - 3xz}$   
(b)  $\boxed{3ac - 4ad + 3bc - 4bd = 3(ac + bc) - 4(ad + bd)}$   
(c)  $\boxed{ac - a^2 - bc + ab}$   
(d)  $\boxed{5x^2 + 4x + 6}$
  
4.  $\boxed{3m^4 + 11m^3 + 7m^2 + 5m + 6}$
  
5. (a)  $\boxed{m(n + p)}$   
(b)  $\boxed{x(y - z)}$   
(c)  $\boxed{5(x + 2)}$   
(d)  $\boxed{7(a + 1)}$
  
6. (a)  $\boxed{(x + 1)(3x + 2)}$   
(b)  $\boxed{(x - 2)(7x + 2)}$   
(c)  $\boxed{(x - 1)(2x + 1)}$   
(d)  $6x(x + 4) + 3(x + 4) = (6x + 3)(x + 4) = \boxed{3(2x + 1)(x + 4)}$