HW 30

bio. theorem

A2

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1
1 7 21 35 35 21 7 1

1. $(x-5)(x+5)$

2. $(2w-7)(2w+7)$

3. $(8-3x)(8+3x)$

4. $5(x^2-16)$
   $5(x-4)(x+4)$

5. $(5g^2-40h)(5g^2+40h)$

6. $x^4+3x^3(4)+3^2x^2(6)+3^3x(4)+3^4$
   $= x^4+12x^3+54x^2+108x+81$

7. $y^6+6(1)y^5+15(1)^2y^4+20y^3+15y^2+6y+1$
   $= y^6+6y^5+15y^4+20y^3+15y^2+6y+1$

8. $n^5+5(-4)n^4+10(-4)^2n^3+10(-4)^3n^2+5(-4)^4n+(-4)^5$
   $= n^5-20n^4+160n^3-640n^2+1280n-1024$

9. $x^7+7x^6y+21x^5y^2+35x^4y^3+35x^3y^4+21x^2y^5+7xy^6+y^7$

10. $x^5+5(-2y)x^4+10(-2y)^2x^3+10(-2y)^3x^2+5(-2y)^4x+(-2y)^5$
    $= x^5-10x^4y+40x^3y^2-80x^2y^3+80xy^4-32y^5$

11. $20x^3$ $(x+5)^4$
    $\downarrow$
    4. $\underline{5}$

12. $(2m)^3+3(2m)^2\cdot\underline{1}n$
    $(2m+n)^3$