IB Math SL Y1 Name_____

Pascal´s Triangle and Binomial Expansion

1) Create Pascal´s Triangle up to row 10.

Find each coefficient described.

2) Coefficient of x^4 in expansion of $(2 + x)^5$

3) Coefficient of x^3y in expansion of $(2x + y)^4$

Find each term described.

4) 3rd term in expansion of $(u - 2v)^6$

5) 8th term in expansion of $(2y - x)^7$

Use Pascal´s Triangle to expand the given binomials.

6) $(x+3)^4$

7) $(x-y)^5$

8) $(3x+1)^3$

9) $(y+3)^7$

10) $(y-2x)^6$

11) $(x+4)^9$

Answers to Pascal´s Triangle and Binomial Expansion

1) The dot next to the choice indicates that it is the answer.

2) 10 3) 32 4) $60u^4v^2$ 5) $-x^7$

6) $x^4 + 12x^3 + 54x^2 + 108x + 81$ 7) $x^5 - 5x^4 \cdot y + 10x^3y^2 - 10x^2y^3 + 5xy^4 - y^5$

8) $27x^3 + 27x^2 + 9x + 1$ 9) $y^4 + 12y^3 + 54y^2 + 108y + 81$

10) $y^6 + 12y^5x + 60y^4x^2 + 160y^3x^3 + 240y^2x^4 + 192yx^5 + 64x^6$

11) $x^9 + 36x^8 + 576x^7 + 5376x^6 + 32256x^5 + 129024x^4 + 344064x^3 + 589824x^2 + 589824x + 262144$