

6.3 Pascal's Triangle - Worksheet #2

MCR3U

Jensen

1) Expand each expression using Pascal's triangle

a) $(x + 4)^3$

b) $(1 - 2x)^4$

c) $(3x + y)^2$

d) $(x - 5)^5$

e) $(3 + 2n)^6$

f) $(x - 7)^{11}$

g) $(2x + 5)^7$

Answers

1. a) $x^3 + 12x^2 + 48x + 64$

b) $1 - 8x + 24x^2 - 32x^3 + 16x^4$

c) $9x^2 + 6xy + y^2$

d) $x^5 - 25x^4 + 250x^3 - 1250x^2 + 3125x - 3125$

e) $729 + 2916n + 4860n^2 + 4320n^3 + 2160n^4 + 576n^5 + 64n^6$

f) $x^{11} - 77x^{10} + 2695x^9 - 56595x^8 + 792330x^7 - 7764834x^6 + 54353838x^5 - 271769190x^4$
 $+ 951192165x^3 - 2219448285x^2 + 3107227739x - 1977326743$

g) $128x^7 + 2240x^6 + 16800x^5 + 70000x^4 + 175000x^3 + 262500x^2 + 218750x + 78125$