19.	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 8 28 56 70 56 28 8 1 1 9 36 84 126 126 84 36 9 1 1 10 45 120 210 252 210 120 45 10 1
21.	$(y-3z)^{10} = [y+(-3z)]^{10}$ $= 1y^{10}(-3z)^0 + 10y^9(-3z)^1 + 45y^8(-3z)^2$ $+ 120y^7(-3z)^3 + 210y^6(-3z)^4$ $+ 252y^5(-3z)^5 + 210y^4(-3z)^6$ $+ 120y^3(-3z)^7 + 45y^2(-3z)^8$ $+ 10y^1(-3z)^9 + 1y^0(-3z)^{10}$ $= y^{10} - 30y^9z + 405y^8z^2 - 3240y^7z^3$ $+ 17{,}010y^6z^4 - 61{,}236y^5z^5 + 153{,}090y^4z^6$ $- 262{,}440y^3z^7 + 295{,}245y^2z^8$ $- 196{,}830yz^9 + 59{,}049z^{10}$
23.	$(2s-t^4)^7 = [2s+(-t^4)]^7$ $= 1(2s)^7(-t^4)^0 + 7(2s)^6(-t^4)^1$ $+ 21(2s)^5(-t^4)^2 + 35(2s)^4(-t^4)^3$ $+ 35(2s)^3(-t^4)^4 + 21(2s)^2(-t^4)^5$ $+ 7(2s)^1(-t^4)^6 + 1(2s)^0(-t^4)^7$ $= 128s^7 - 448s^6t^4 + 672s^5t^8$ $- 560s^4t^{12} + 280s^3t^{16} - 84s^2t^{20}$ $+ 14st^{24} - t^{28}$

25.	$(c-4)^5 = [c+(-4)]^5$ $= {}_5C_0c^5(-4)^0 + {}_5C_1c^4(-4)^1 + {}_5C_2c^3(-4)^2$ $+ {}_5C_3c^2(-4)^3 + {}_5C_4c^1(-4)^4 + {}_5C_5c^0(-4)^5$ $= (1)(c^5)(1) + (5)(c^4)(-4) + (10)(c^3)(16)$ $+ (10)(c^2)(-64) + (5)(c)(256)$ $+ (1)(1)(-1024)$ $= c^5 - 20c^4 + 160c^3 - 640c^2$ $+ 1280c - 1024$
27.	$(4p-q)^6 = [4p+(-q)]^6$ $= {}_6C_0(4p)^6(-q)^0 + {}_6C_1(4p)^5(-q)^1$ $+ {}_6C_2(4p)^4(-q)^2 + {}_6C_3(4p)^3(-q)^3$ $+ {}_6C_4(4p)^2(-q)^4 + {}_6C_5(4p)^1(-q)^5$ $+ {}_6C_6(4p)^0(-q)^6$ $= (1)(4096p^6)(1) + (6)(1024p^5)(-q)$ $+ (15)(256p^4)(q^2) + (20)(64p^3)(-q^3)$ $+ (15)(16p^2)(q^4)$ $+ (6)(4p)(-q^5) + (1)(1)(q^6)$ $= 4096p^6 - 6144p^5q + 3840p^4q^2$ $- 1280p^3q^3 + 240p^2q^4 - 24pq^5 + q^6$
29.	$(2s^4+5)^5 = {}_5C_0(2s^4)^5(5)^0 + {}_5C_1(2s^4)^4(5)^1$ $+ {}_5C_2(2s^4)^3(5)^2 + {}_5C_3(2s^4)^2(5)^3$ $+ {}_5C_4(2s^4)^1(5)^4 + {}_5C_5(2s^4)^0(5)^5$ $= (1)(32s^{20})(1) + (5)(16s^{16})(5)$ $+ (10)(8s^{12})(25) + (10)(4s^8)(125)$ $+ (5)(2s^4)(625) + (1)(1)(3125)$ $= 32s^{20} + 400s^{16} + 2000s^{12}$ $+ 5000s^8 + 6250s^4 + 3125$

31.	$(x^3 - y^2)^4 = [x^3 + (-y^2)]^4$ $= {}_4C_0(x^3)^4(-y^2)^0 + {}_4C_1(x^3)^3(-y^2)^1$ $+ {}_4C_2(x^3)^2(-y^2)^2 + {}_4C_3(x^3)^1(-y^2)^3$ $+ {}_4C_4(x^3)^0(-y^2)^4$ $= (1)(x^{12})(1) + (4)(x^9)(-y^2) + (6)(x^6)(y^4)$ $+ (4)(x^3)(-y^6) + (1)(1)(y^8)$ $= x^{12} - 4x^9y^2 + 6x^6y^4 - 4x^3y^6 + y^8$
33.	${}_5C_2(3x)^3(2^2) = 10(27x^3)(4) = 1080x^3$ The coefficient of x^5 is 1080.
35.	A; ${}_7C_3x^4(-3)^3 = 35x^4(-27) = -945x^4$ The coefficient of x^4 is -945.