

1.1 Applying Algebraic skills to the binomial theorem

- Expanding expressions using the binomial theorem

1. Expand the following using the Binomial Theorem:

(a) $(2a + 1)^5$ (b) $(4 + 3m)^6$ (c) $(5k - 1)^4$ (d) $(2 + h)^7$ (e) $(4x - 1)^5$

Answers:

- 1 (a) $32a^5 + 80a^4 + 80a^3 + 40a^2 + 10a + 1$
(b) $4096 + 18432m + 34560m^2 + 34560m^3 + 19440m^4 + 5832m^5 + 729m^6$
(c) $625k^4 - 500k^3 + 150k^2 - 20k + 1$
(d) $128 + 448h + 672h^2 + 560h^3 + 280h^4 + 84h^5 + 14h^6 + h^7$
(e) $1024x^5 - 1280x^4 + 640x^3 - 160x^2 + 20x - 1$