

A.3.57

Exercise A.3.57 Multiply as indicated and express your answer as a single polynomial in standard form: $(x-2)^3$.

Solution

By the Cube of Binomials formula,

$$(x-a)^3 = x^3 - 3ax^2 + 3a^2x - a^3,$$

so with $a=2$ in this formula we have

$$(x-(2))^3 = x^3 - 3(2)x^2 + 3(2)^2x - (2)^3$$

$$\text{or } \boxed{(x-2)^3 = x^3 - 6x^2 + 12x - 8.} \quad \square$$