

Exercise 2C

Question 9: $f(x) = (x^3 - ax^2 + 2x - a)$ Now, x - a = 0 $x \Rightarrow a = a$ By the remainder theorem, we know that when f(x) is divided by (x - a) the remainder is f(a)Now, $f(a) = a^3 - a(a^2) + 2(a) - a$ $= a^3 - a^3 + 2a - a$ = a $\therefore \text{ The required remainder is } a.$ Question 10: Let $f(x) = ax^3 + 3x^2 - 3$

Let
$$f(x) = ax^3 + 3x^2 - 3$$

and $g(x) = 2x^3 - 5x + a$
 $f(4) = a \times 4^3 + 3 \times 4^2 - 3$
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 \Rightarrow a = 63/63 = 1 .. The value of a is 1.

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