Question	Scheme	Marks	AOs
1	Attempts $f(-3)=3\times(-3)^3+2a\times(-3)^2-4\times-3+5a=0$	M1	3.1a
	Solves linear equation $23a=69\Rightarrow a=...$	M1	1.1b
	$a=3$ cso	A1	1.1b
		(3)	
			(3 marks)

M1: Chooses a suitable method to set up a correct equation in a which may be unsimplified.
This is mainly applying $f(-3)=0$ leading to a correct equation in a.
Missing brackets may be recovered.
Other methods may be seen but they are more demanding
If division is attempted must produce **a correct equation** in a similar way to the $f(-3)=0$ method

$$
\begin{array}{r l}
 & 3x^2+(2a-9)x+23-6a \\
x+3 \,\big) & 3x^3+2ax^2-4x+5a \\
 & \underline{3x^3+9x^2} \\
 & \quad (2a-9)x^2 \;-4x \\
 & \quad \underline{(2a-9)x^2 \;+(6a-27)x} \\
 & \qquad\qquad (23-6a)x+5a \\
 & \qquad\qquad (23-6a)x+69-18a
\end{array}
$$

So accept $5a=69-18a$ or equivalent, where it implies that the remainder will be 0
You may also see variations on the table below. In this method the terms in x are equated to -4

$$
\begin{array}{c|c|c|c|}
 & 3x^2 & (2a-9)x & \dfrac{5a}{3} \\
\hline
x & 3x^3 & (2a-9)x^2 & \dfrac{5a}{3}x \\
\hline
3 & 9x^2 & (6a-27)x & 5a \\
\hline
\end{array}
\qquad 6a-27+\frac{5a}{3}=-4
$$

M1: This is scored for an attempt at solving a linear equation in a.
For the main scheme it is dependent upon having attempted $f(\pm 3)=0$. Allow for a linear equation in a leading to $a=...$. Don't be too concerned with the mechanics of this.

Via division accept $x+3\overline{\big)3x^3+2ax^2-4x+5a}$ (quotient $3x^2...$) followed by a remainder in a set $=0\Rightarrow a=...$
or two terms in a are equated so that the remainder = 0
FYI the correct remainder via division is $23a+12-81$ oe

A1: $a=3$ cso

An answer of 3 with no incorrect working can be awarded 3 marks