10 The expansion of $(ax-2)^4\left(1+\frac{b}{x}\right)^3$ is written in descending powers of x.

The first 3 terms of this expansion are $81x^4+999x^3+cx^2$.
It is given that a, b and c are positive integers.

Find the values of a, b and c. [10]

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Continuation of working space for Question 10.

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Question 11 is printed on the next page.

11 Solve the equation $\cot(y+1.5)=3$ where y is in radians and $0<y<6$. [4]

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