5 The polynomial $3x^3 + pax^2 + 7a^2x + qa^3$ is denoted by $\mathrm{f}(x)$, where p, q and a are constants and $a \neq 0$.

When $\mathrm{f}(x)$ is divided by $(x + 2a)$ the remainder is $-22a^3$. When $\mathrm{f}(x)$ is divided by $(3x - a)$ the remainder is $-a^3$.

Find the values of p and q. [5]

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