10 In the expansion of $\left(ax+\frac{b}{x^2}\right)^9$, where a and b are constants with $a > 0$, the term independent of x is $-145\,152$ and the coefficient of x^6 is -6912. Show that $a^2b = -12$ and find the value of a and the value of b. [7]

Question 11 is printed on the next page.