The Binomial Theorem PP Questions

Q. State and simplify the general term in the binomial expansion of $\left(2x-\frac{5}{x^2}\right)^6$.
Hence, or otherwise, find the term independent of x.

Q. 1. Use the binomial theorem to expand and simplify

$$\left(\frac{x^2}{3}-\frac{2}{x}\right)^5.$$

Q. Write down and simplify the general term in the expansion of $\left(2x-\frac{1}{x^2}\right)^9$.
Hence, or otherwise, obtain the term independent of x.

Q. Write down and simplify the general term in the expression $\left(\frac{2}{x}+\frac{1}{4x^2}\right)^{10}$.

Hence, or otherwise, obtain the term in $\frac{1}{x^{13}}$.

Q. Write down the binomial expansion of $\left(3x-\frac{2}{x^2}\right)^4$ and simplify your answer.

Q. Use the binomial theorem to expand $\left(\frac{1}{2}x-3\right)^4$ and simplify your answer.

Q. Use the binomial theorem to expand and simplify

$$\left(\frac{x^2}{3}-\frac{2}{x}\right)^5.$$