7.4 Exercise Set

1. Expand $(x+y)^5$ by

a) Pascal's Triangle

b) binomial expansion

2. Expand $(x^2-2y)^6$ by

a) Pascal's Triangle

b) binomial expansion

3. Expand $\left(2x-\frac{1}{y^2}\right)^5$ by

a) Pascal's Triangle

b) binomial expansion

4. Expand $\left(3x^2-\frac{1}{2y}\right)^4$ by

a) Pascal's Triangle

b) binomial expansion

5. Determine the 6^{th} term of $(x-2y)^9$.

6. Determine the 11^{th} term of $\left(3x-\frac{1}{2y^2}\right)^{15}$.

7. Determine the next to last term of $\left(x^2-\frac{1}{y}\right)^7$.

8. Determine the middle term of $(3a+2b^2)^6$.

9. Which term of $\left(x^2 - \frac{1}{x}\right)^6$ is a constant?

10. Determine the value of the constant term of $\left(2x^3 - \frac{1}{x^2}\right)^{10}$.

11. The 4th term of $\left(x - \frac{1}{2}\right)^n$ is $-15x^7$.
Determine *n*.

12. The 7th term of $(2x-1)^n$ is $112x^2$.
Determine *n*.

13. Determine b, such that $(x-b)^{10}$ has the term $-1875x^7$.

14. Determine b, such that $(2x+b)^7$ has the term $1512x^5$.