

IB Math SL Complete Revision

Session 1

Learn Tuition Centre

1 Binomial Theorem - Answer Key

1.3

1. $\frac{n^2-n}{2}$

2. $n + 1$

3. $n^2 + 3n + 2$

4. $\frac{1}{4n^2+2n}$

5. $4n^2 + 6n + 2$

6. $\frac{p}{p^2-7p+12}$

7. 1260

8. 12

9. $\frac{1}{24}n(n-1)(n-2)(n-3)$

10. $\frac{n}{2}(n+1)$

11. $n = 6$

12. $n = 3$

1.4

1. $32x^5 - 80x^4 + 80x^3 - 40x^2 + 10x - 1$

2. $\frac{8}{x^3} - \frac{24}{x^2} + 24x - 8x^3$

3. $x^8 - 4x^5 + 6x^2 - \frac{4}{x} + \frac{1}{x^4}$

4. $p^6 + 3p^5 + 6p^4 + 7p^3 + 6p^2 + 3p + 1$

5. $m^6n^3 - 3m^5n + 3\frac{m^4}{n} - \frac{m^3}{n^3}$

6. $x^2 - 8\sqrt{2}x^{3/2} + 48x - 64\sqrt{2}x^{1/2} + 64$

1.5

1. $68 + 48\sqrt{2}$

2. $132\sqrt{3} - 162\sqrt{2}$

3. 19.4481

4. 1031.301

1.6

1. $\binom{8}{r}(3p)^{8-r}(-2q)^r$

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

3. $\binom{6}{r}(x^2)^{6-r}(-x^3)^r$

4. $\binom{4}{r}\left(\frac{1}{2x}\right)^{4-r}(2x)^r$

1.7

1. $-8064x^5$

2. $-41990x^2$

3. 59136

4. 312

5. 19

6. $\frac{975}{4}x^2$

7. 22

8. 4

1.8

1. $k = 2, n = 6$

2. $a = e^x, b = 2$

3. $m = 2, n = 3$

4. $a = \pm 2, b = \pm 1$

5. $a = 4$

6. $n = 9$