

$$35) 1\left(\frac{1}{5}\right) - \frac{1}{4}\left(\frac{4}{5}\right) = 0 \quad 38) {}_{12}C_2 (2x)^{10} (3)^2 = 608256x^{10}$$

$$36) (p+2q)^6 \quad n=6 \quad 39) {}_5C_3 (3x)^2 (-5)^3 = -11250x^2$$

$$\begin{aligned} \text{1st } & {}_6C_0 (p)^6 (2q)^0 = (1)(p^6)(1) = p^6 \\ \text{2nd } & {}_6C_1 (p)^5 (2q)^1 = (6)(p^5)(2q) = 12p^5q \\ \text{3rd } & {}_6C_2 (p)^4 (2q)^2 = (15)(p^4)(4q^2) = 60p^4q^2 \\ \text{4th } & {}_6C_3 (p)^3 (2q)^3 = (20)(p^3)(8q^3) = 160p^3q^3 \\ \text{5th } & {}_6C_4 (p)^2 (2q)^4 = (15)(p^2)(16q^4) = 240p^2q^4 \\ \text{6th } & {}_6C_5 (p)^1 (2q)^5 = (6)(p)(32q^5) = 192pq^5 \\ \text{7th } & {}_6C_6 (p)^0 (2q)^6 = (1)(1)(64q^6) = 64q^6 \end{aligned}$$

$$p^6 + 12p^5q + 60p^4q^2 + 160p^3q^3 + 240p^2q^4 + 192pq^5 + 64q^6$$

$$37) (3x-2y)^4 \quad n=4$$

$$\begin{aligned} \text{1st } & {}_4C_0 (3x)^4 (-2y)^0 = (1)(81x^4)(1) = 81x^4 \\ \text{2nd } & {}_4C_1 (3x)^3 (-2y)^1 = (4)(27x^3)(-2y) = -216x^3y \\ \text{3rd } & {}_4C_2 (3x)^2 (-2y)^2 = (6)(9x^2)(4y^2) = 216x^2y^2 \\ \text{4th } & {}_4C_3 (3x)^1 (-2y)^3 = (4)(3x)(-8y^3) = -96xy^3 \\ \text{5th } & {}_4C_4 (3x)^0 (-2y)^4 = (1)(1)(16y^4) = 16y^4 \end{aligned}$$

$$81x^4 - 216x^3y + 216x^2y^2 - 96xy^3 + 16y^4$$