(28.) Multiply first equation by a, second by b, third by c, etc.

(29.) $\frac{1}{6}$. (30.) $x=\frac{1}{2}$. (31.) 0. (32.) $\frac{x-3}{2x^2+5}$.

(33.) $(m+q+n-p)\,(m+q-n+p)$. (34.) $x+\frac{1}{x}$.

(35.) $(x+y+a)\,(x+y+b)$. (36.) $3+6b$.

(37.) $x^2-5ax+7a^2$.

(38.) $m=-510$. (39.) $x=10a$. (40.) $\frac{2x}{1+x^2+x^4}$.

(41.) $\frac{x^2+x-12}{x^2-x-12}$. (42.) n.

Page 39. (43.) Second, x^2-2x+2. (44.) $\frac{x+7}{x+5}$. (45.) .

(46.) . (47.) -30. (48.) $1-a^8b^8$.

(49.) x^2-xy+y^2, (ii) $(x^4-x^2y^2+y^4)\,(x^2-xy+y^2)\,(x^2+xy+y^2)$.

(50.) 39. (51.) $\frac{1-y}{x}$. (52.) x^4-4x^2+16. (53.) -8.

(54.) $\frac{a+c}{a-c}$. (55.) $\frac{x+a}{2a}$. (56.) 8. (57.) $\frac{a^2-4b^2}{a}$.

(58.) $\frac{a^3}{b^3}+\frac{b^3}{a^3}+3\left(\frac{a}{b}+\frac{b}{a}\right)$. (59.) $\frac{8x^3}{a^3}-\frac{27y^3}{b^3}$.

(60.) $\frac{2}{(1-4a^2)(1+a)}$.

(61.) $a(a-1)\,(a+1)\,(a+3)\,(a-6)$. (62.) $\frac{2a}{c^2}$.

(63.) C. (64.) $\frac{3x+2}{5x+1}$. (65.) -1.

Page 40. (66.) $(x-2y+z)\,(x^2+4y^2+z^2+2xy+2yz-xz)$.

(67.) $(x+2y+z)\,(x^2+4y^2+z^2-2yz-xz-2xy)$.

(68.) $(2a+3b-c)\,(4a^2+9b^2+c^2+3bc+2ac-6ab)$.

(69.) $(2a-3b-c)\,(4a^2+9b^2+c^2-3bc+2ac+6ab)$.

(70.) $(x+2y-1)\,(x^2+4y^2-2xy+x+2y+1)$.

(71.) $(x-2y-1)\,(x^2+4y^2+x+2xy-2y+1)$.

(72.) $(x+1)\,(x+1)\,(x-2)\,(x-3)$.

(73.) Hint.—If there is a binomial factor the co-efficient of x is unity, and the second term must be $\pm$ one of the factors of 165. Using the remainder theorem, the expression vanishes when 1, 3, -5 or -7 is put for x, $\therefore$ factors $=(x-1)\,(x-3)\,(x+5)\,(x+7)$.

(74.) Write $(x^2-7x)^2+22(x^2-7x)+120$, etc., $(x-2)\,(x-3)\,(x-4)\,(x-5)$.

(75.) $(x-3)\,(x-5)\,(x+4)\,(x+8)$. (76.) .