13.1.1. ಈ ಕೆಳಗಿನ ಬೀಜಪದಗಳಿಗೆ ಸಾಮಾನ್ಯ ಅಪವರ್ತನಗಳನ್ನು ಕಂಡು ಹಿಡಿಯಿರಿ.

ಬೀಜಪದಗಳು	ಅಪವರ್ತನಗಳು	ಸಾಮಾನ್ಯ ಅಪವರ್ತನ=
(i) 12x, 36	$12x = 2*2*3*x$ $36 = 2*2*3*3$	$2*2*3 = 12$
(ii) 2y, 22xy	$2y = 2*y$ $22xy = 2*11*x*y$	$2*y = 2y$
(iii) 14pq, $28p^2q^2$	$14pq = 2*7*p*q$ $28p^2q^2 = 2*2*7*p*p*q*q$	$2*7*p*q = 14pq$
(iv) 2x, $3x^2$, 4	$2x = 2*x$ $3x^2 = 3*x*x$ $4 = 2*2$	1
(v) 6abc, $24ab^2$, $12a^2b$	$6abc = 2*3*a*b*c$ $24ab^2 = 2*2*2*3*a*b*b$ $12a^2b = 2*2*3*a*a*b$	$2*3*a*b = 6ab$
(vi) $16x^3$, $-4x^2$, 32x	$16x^3 = 2*2*2*2*x*x*x$ $-4x^2 = -2*2*x*x$ $32x = 2*2*2*2*2*x$	$2*2*x = 4x$
(vii) 10pq, 20qr, 30rp	$10pq = 2*5*p*q$ $20qr = 2*2*5*q*r$ $30rp = 2*3*5*r*p$	$2*5 = 10$
(viii) $3x^2y^3$, $10x^3y^2$, $6x^2y^2z$	$3x^2y^3 = 3*x*x*y*y*y$ $10x^3y^2 = 2*5*x*x*x*y*y$ $6x^2y^2z = 2*3*x*x*y*y*z$	$x*x*y*y = x^2y^2$

13.1.2. ಈ ಕೆಳಗಿನ ಬೀಜೋಕ್ತಿಗಳನ್ನು ಅಪವರ್ತಿಸಿ.

ಬೀಜೋಕ್ತಿ	ಅಪವರ್ತನಗಳು	ಅಪವರ್ತಿಸಿದಾಗ
(i) $7x-42$	$7x=7*x$ $-42=7*(-6)$	$7x-42=7*x-7*6=7(x-6)$
(ii) $6p-12q$	$6p=2*3*p$ $-12q=-2*2*3*q$	$6p-12q=2*3*p-2*2*3*q=6(p-2q)$
(iii) $7a^2+14a$	$7a^2=7*a*a$ $14a=2*7*a$	$7a^2+14a=7*a*a+2*7*a=7a(a+2)$
(iv) $-16z+20z^3$	$-16z=-2*2**2*2*z$ $20z^3=2*2*5*z*z*z$	$-16z+20z^3=-2*2**2*2*z+2*2*5*z*z*z=4z(-4+5z^2)$
(v) $20l^2m+30alm$	$20l^2m=2*2*5*l*l*m$ $30alm=2*3*5*a*l*m$	$20l^2m+30alm=2*2*5*l*l*m+2*3*5*a*l*m=10lm(2l+3a)$
(vi) $5x^2y-15xy^2$	$5x^2y=5*x*x*y$ $-15xy^2=-3*5*x*y*y$	$5x^2y-15xy^2=5*x*x*y-3*5*x*y*y=5xy(x-3y)$
(vii) $10a^2-15b^2+20c^2$	$10a^2=2*5*a*a$ $-15b^2=-3*5*b*b$ $20c^2=2*2*5*c*c$	$10a^2-15b^2+20c^2=2*5*a*a-3*5*b*b+2*2*5*c*c=5(2a^2-3b^2+4c^2)$
(viii) $-4a^2+4ab-4ca$	$-4a^2=-2*2*a*a$ $4ab=2*2*a*b$ $-4ca=-2*2*a*c$	$-4a^2+4ab-4ca=-2*2*a*a+2*2*a*b-2*2*a*c=4a(-a+b-c)$
(ix) $x^2yz+xy^2z+xyz^2$	$x^2yz=x*x*y*z$ $xy^2z=x*y*y*z$ $xyz^2=x*y*z*z$	$x^2yz+xy^2z+xyz^2=x*x*y*z+x*y*y*z+x*y*z*z=xyz(x+y+z)$
(x) ax^2y+bxy^2+cxyz	$ax^2y=a*x*x*y$ $bxy^2=b*x*y*y$ $cxyz^2=c*x*y*z$	$ax^2y+bxy^2+cxyz^2=a*x*x*y+b*x*y*y+c*x*y*z*z=xy(ax+by+cz)$

13.1.3. ಅಪವರ್ತಿಸಿ.

(i) $x^2+xy+8x+8y$
$=x*x+x*y+8*x+8*y$
$=x(x+y)+8(x+y)$
$=(x+y)(x+8)$

(ii) $15xy-6x+5y-2$
$=3*5*x*y-3*2*x+5*y-2$
$=3x(5y-2)+1(5y-2)$
$=(5y-2)(3x+1)$

(iii) $ax+bx-ay-by$
$=a*x+b*x-a*y-b*y$
$=x(a+b)-y(a+b)$
$=(a+b)(x-y)$

(iv) $15pq+15+9q+25p$
$=15pq+9q+15+25p$ (ಮರುಜೋಡಣೆ)
$=3*5*p*q+3*3*q+3*5+5*5*p$
$=3q(5p+3)+5(3+5p)$ ---($5p+3=3+5p$)
$=(5p+3)(3q+5)$

(v) $z-7+7xy-xyz$
$=z-7-xyz+7xy$ (ಮರುಜೋಡಣೆ)
$=1(z-7)-x*y*z+7*x*y$
$=1(z-7)-xy(z-7)$
$=(z-7)(1-xy)$