(6.) . (7.) xy is greater.

(8.) $n^3+1 \gtrless n^2+n$ or $n^2-n+1 \gtrless n$ or $(n-1)^2 \gtrless 0$, etc.

(9.) .

(10.) $xyz=\frac{(b-c)(c-a)(a-b)}{abc}$, $(x+y+z)=\frac{(b-c)(a-c)(a-b)}{abc}$, $\therefore$, etc.

EXERCISE XL.

(1.) Apply $\frac{x^3-y^3}{x-y}$, etc. (2.) $\{2(a+b)^2-3(a-b)^2\}^2$.

(3.) $(3x-4y+2z)(4x-5y+7z)$. (4.) 50 lbs., 30 lbs.

(5.) . (6.) $q=52$.

(7.) 1st $=\frac{1}{(1+x)^2}$, 2nd $=\frac{1}{(1-x)^2}$, $\therefore$ product $\frac{1}{(1-x^2)}\times\frac{1}{(1-x^2)}=$ $(1+x^2+x^4,$ etc.$)$ $(1+x^2+x^4,$ etc.$)=(1+x^2+$ $x^4+,$ etc.$)^2$.

(8.) . (9.) $(x+2y-2)^2$. (10.) $(a-c)(c-b)$.

MISCELLANEOUS EXERCISES.

A.

Page 62. (1.) $(4a-6)(4a-9)$.

(2.) Factor by difference of squares, $(x+1)(x-3)$.

(3.) $x=a+b$, $y=a-b$, expression $=\{(x+y)^2+3xy\}\{(x-y)^2-3xy\}=(4a^2+3a^2-3b^2)(4b^2-3a^2+3b^2)$, etc. (4.) $\frac{1}{16}(5p^2-1^2)(5q^2-p^2)$.

(5.) Apply $\frac{x^3-y^3}{x-y}$, $\therefore$ expression is divisible by $(x^3+x^2+4)-(x^3-2x+3)=x^2+2x+1$, etc.

(6.) Each side of $=n$ a cube. (7.) $3a+b+2c+d$.

(8.) $(x-m-n)(x-m+n)$. (9.) $(a-b)(b-c)(c-a)$.

(10.) Divide numerator of each by denominator, etc.

(11.) Dividend is divisible by $(x^2+\frac{1}{x^2}-2)$. Apply principle $\frac{x^3-y^3}{x-y}$; $x^4+2x^2+\frac{2}{x^2}+\frac{1}{x^4}+6$.

(12.) $(x+1)(x-1)(x-2)(x-4)$.

(13.) Add the equations, etc., $(a+b+c)^2$.

(14.) Apply difference of squares, $16(a-2b)(c+d)$.

(15.) $(x+y)(x^2-4xy+y^2)$. (16.) 42000.

(17.) $2x^5-4x^4$. (18.) .