

$$7. \quad x(y+z)(y^2+z^2-x^2)+y(z+x)(z^2+x^2-y^2) \\ +z(x+y)(x^2+y^2-z^2).$$

$$8. \quad \frac{x}{y+z} + \frac{y}{x+z} + \frac{z}{x+y}.$$

Find the value of

$$9. \quad \frac{x}{a} + \frac{x}{b}, \text{ when } x = \frac{abc}{a+b}.$$

$$10. \quad \frac{1}{a(b-x)} + \frac{1}{b(c-x)} + \frac{1}{a(x-c)}, \text{ when } x = \frac{b}{a}(a-b+c).$$

$$11. \quad \frac{x}{a} + \frac{x}{b-a}, \text{ when } x = \frac{a^2(b-a)}{b(b+a)}.$$

$$12. \quad (a+x)(b+x)-a(b+c)+x^2, \text{ when } x = \frac{ac}{b}.$$

$$13. \quad bx+cy+az, \text{ when } x=b+c-a, \quad y=c+a-b, \\ z=a+b-c.$$

$$14. \quad \frac{a(1+b)+bx}{a(1+b)-bx} - \frac{a}{a-2bx}, \text{ when } x=-a.$$

$$15. \quad \left(\frac{x+a}{x+b}\right)^3 - \frac{x+2a+b}{x-a-2b}, \text{ when } x = \frac{1}{2}(b-a).$$

$$16. \quad (p-q)(x+2r)+(r-x)(p+q), \text{ when } x = \frac{r(3p-q)}{2q}.$$

$$17. \quad a^2(b-c)+b^2(c-a)+c^2(a-b), \text{ when } a-b=0.$$

$$18. \quad (a+b+c)(bc+ca+ab)-(a+b)(b+c)(c+a), \\ \text{when } a=-b.$$

$$19. \quad (a+b+c)^3-(a^3+b^3+c^3), \text{ when } a+b=0.$$

$$20. \quad (x+y+z)^4-(x+y)^4-(y+z)^4-(z+x)^4+x^4+y^4+z^4, \\ \text{when } x+y+z=0.$$

$$21. \quad a^3(c-b^2)+b^3(a-c^2)+c^3(b-a^2)+abc(abc-1), \\ \text{when } b-a^2=0.$$