EXERCISES CXXV. Pages 309—311.

1. $(15+3\sqrt{7}-5\sqrt{5}-\sqrt{35})\div 4$; $-(8+2\sqrt{15})\div 2$; $(\sqrt{77}-\sqrt{55}+5\sqrt{7}-5\sqrt{5})\div 2$. **2.** 2·02. **3.** $\sqrt[6]{72}$; $\sqrt[12]{16875}$. **4.** 59. **5.** $1+\sqrt{3}$; $4+\sqrt{7}$; $5-\sqrt{11}$. **6.** $\sqrt{5}+\sqrt{7}$; $\sqrt{11}+\sqrt{6}$; $\sqrt{13}-\sqrt{5}$; $\sqrt{5}-\sqrt{2}$; $\sqrt{7}-\sqrt{3}$; $3+\sqrt{5}$. **7.** $\sqrt{6}+\sqrt{8}$; $\sqrt{15}-\sqrt{6}$; $\sqrt{12}+\sqrt{18}$, $\sqrt{8}-\sqrt{5}$; $\sqrt{10}+\sqrt{6}$; $\sqrt{27}-24$. **10.** $\sqrt{3}$. **11.** (1) 10. (2) 7. (3) 6. (4) 4 or $-\frac{10}{3}$. (5) $-b$. (6) $\frac{3}{16}$. (7) 0. (8) $4(a+b)$. (9) 3 or -32. (10) $\pm\frac{13}{14}$. (11) ± 3. (12) 5 or -8. (13) 2 or $-\frac{1}{2}$. (14) $(4\pm\sqrt{280})\div 6$. (15) $(p-q)^2\div 2q$. **13.** $(\sqrt{5}+\sqrt{6}-\sqrt{7})(\sqrt{5}-\sqrt{6}+\sqrt{7})(\sqrt{5}-\sqrt{6}-\sqrt{7})$. **14.** $a^{\frac{1}{3}}-1+a^{-\frac{1}{3}}$. **15.** $x^2-10x+18=0$. **17.** $\sqrt{6}+\sqrt{8}+\sqrt{10}$.

EXERCISES CXXVI. Pages 312—313.

A 1. (i) $x(x+6)(3x-4)$; (ii) $(2x-3y+5z)(x+2y-3z)$; (iii) $(a+b-c+d)(a-b+c+d)(b+c-a+d)(b+c+a-d)$. **2.** -3; -24. **3.** $x^{\frac{4}{2}}+x^{\frac{3}{2}}y^{\frac{1}{2}}+x^{\frac{2}{2}}y^{\frac{2}{2}}+x^{\frac{1}{2}}y^{\frac{3}{2}}+y^{\frac{4}{2}}$. **4.** 2, $\frac{1}{2}$, $(1\pm 2\sqrt{-6})+5$. **5.** $50\frac{5}{9}$ ft. by $50\frac{5}{9}$ ft.

B 1. $\left(\frac{5\pm\sqrt{5}}{2}, \frac{5\mp\sqrt{5}}{2}\right)$, $\left(\frac{5\pm\sqrt{125}}{2}, \frac{5\mp\sqrt{125}}{2}\right)$. **2.** 4; 24. **4.** 1, -1.

C 1. 2, $\frac{1}{3}$. **2.** $(x+a+b)(x+a-b)(x-a+b)(x-a-b)$. **3.** $x=4$. **4.** $-\frac{25}{72}$. **6.** (i) $(\overline{m+nx}+\overline{m-n})(\overline{m-nx}+\overline{m+n})$. (ii) $(x+1)(x-2)(x-7)(x-10)$. **7.** (3, 4), $(-\frac{4}{3}, \frac{3}{4})$.

EXERCISES CXXVII. Pages 320—321.

1. lmn. **3.** $a^3=c+3a$. **4.** $a^4=d+4a^2-2$. **5.** $(ar-cp)^2-4(br-cq)(aq-bp)=0$. **6.** $a^3+2c^3=3ab^2$. **7.** $\frac{a}{p}=\frac{b}{q}=\frac{c}{r}$. **8.** $c=a$. **9.** $mn-a=0$, or $n=\frac{m}{a}$. **10.** $l^2m^2=a^2(l^2+m^2)$, or $1=\frac{a^2}{l^2}+\frac{a^2}{m^2}$. **11.** $a^2l^2+b^2m^2=1$. **12.** $\frac{a}{r}=\frac{b}{q}=\frac{c}{p}$. **13.** $\frac{1}{a+1}+\frac{1}{b+1}+\frac{1}{c+1}+\frac{1}{d+1}=3$.