

$$\sin a + \sin \alpha = 2 \sin \frac{a+\alpha}{2} \cos \frac{a-\alpha}{2} \quad \sin c = \sin b + \sin e$$

$$2 \frac{\sin(a+\alpha)}{2} = 2 \sin \frac{a}{2} \cos \frac{\alpha}{2} + 2 \cos \frac{a}{2} \sin \frac{\alpha}{2}$$

$$\frac{\cos(a-\alpha)}{2} = \frac{\cos \frac{a}{2} \cos \frac{\alpha}{2} + \sin \frac{a}{2} \sin \frac{\alpha}{2}}{2}$$

0296531
0815288
1111819

0860037
3 9703469
156568
0296531
0860037

$$\cos \sin a + \sin b + \sin c = 2 \sin \frac{a}{2} \cos \frac{a}{2} - 2 \cos \frac{a}{2}$$

$$2 \sin \frac{a}{2} \cos \frac{a}{2} \cos \frac{\alpha}{2} + 2 \cos \frac{a}{2} \sin \frac{\alpha}{2} \cos \frac{\alpha}{2}$$

37

$$+ 2 \sin \frac{a}{2} \cos \frac{a}{2} \sin \frac{\alpha}{2} \cos \frac{\alpha}{2} + 2 \sin \frac{a}{2} \sin \frac{\alpha}{2} \cos \frac{a}{2} \cos \frac{\alpha}{2}$$

$$(\cos a)^2 - 2 \cos$$

$$2 \sin \frac{a}{2} \cos \frac{a}{2} \cos \frac{\alpha}{2} + 2 \sin \frac{a}{2} \sin \frac{\alpha}{2} \cos \frac{a}{2} \cos \frac{\alpha}{2} + 2 (\sin \frac{a}{2} \cos \frac{\alpha}{2})$$

$$= 2 \sin \frac{a}{2} \cos \frac{a}{2} (\cos \frac{\alpha}{2}) + (\sin \frac{a}{2} \cos \frac{\alpha}{2}) + 2 (\sin \frac{a}{2} \cos \frac{\alpha}{2})$$

$$\cos \frac{\alpha}{2} = 1 - \sin \frac{\alpha}{2}$$

$$P = \sqrt{1 - \cos^2 a} + \sqrt{1 - \cos^2 b} + \sqrt{1 - \cos^2 c}$$

$$P^2 = 1 - \cos^2 a + 2 \sqrt{(1 - \cos^2 a)(1 - \cos^2 b)} + 1 - \cos^2 b + 2 \sqrt{(1 - \cos^2 a)(1 - \cos^2 c)}$$

3 076539

$$+ 2 \sqrt{(1 - \cos^2 b)(1 - \cos^2 c)} + 1 - \cos^2 c$$

$$= 3 - \cos^2 a - \cos^2 b - \cos^2 c + 2 \sqrt{(1 - \cos^2 a)(1 - \cos^2 b)} + 2 \sqrt{(1 - \cos^2 a)(1 - \cos^2 c)}$$

$$+ 2 \sqrt{(1 - \cos^2 b)(1 - \cos^2 c)} + \cos^2 a \cos^2 c$$

$$9 - 3(\cos^2 a) - 3(\cos^2 b) - 3(\cos^2 c) - 2 \cos^2 a \cos^2 b + \cos^2 b$$

$$- \cos^2(a-b) - \cos^2(b-c) - \cos^2(a-c)$$

0,219

1 - \cos^2 a
1 - \cos^2 b

1,1156568
0815288
10341250

1000 1219

1,219

$$2 \sqrt{\cos^2 a - \cos^2 c}$$

$$2 \sqrt{(1 - \cos^2 b) - \cos^2 c} + \cos^2 b \cos^2 c$$

$$2 \sqrt{1 - \cos^2 a - \cos^2 b} + \cos^2 a \cos^2 c$$

$$2 \sqrt{(1 - \cos^2 b) - \cos^2 c} + \cos^2 b \cos^2 c$$

$$2 + 2 \cos^2 a \cos^2 b - \cos^2 a - \cos^2 b - \cos^2 c - \cos^2 a$$

$$2 \cos^2(a+b) - (\cos^2 b) - (\cos^2 a) - 2 \cos^2(a-c) - \cos^2 a - \cos^2 c$$

$$2 - \cos^2(b-c) - (\cos^2 b) - \cos^2 c$$