

AとCの高さの差を x とする。

$$\tan 15^\circ = \frac{\sin 15^\circ}{\cos 15^\circ} = \frac{1 - \cos 30^\circ}{1 + \cos 30^\circ} = \frac{1 - \frac{\sqrt{3}}{2}}{1 + \frac{\sqrt{3}}{2}} = \frac{(2 - \sqrt{3})^2}{(2 + \sqrt{3})(2 - \sqrt{3})} = (2 - \sqrt{3})^2$$

$$\tan 15^\circ = 2 - \sqrt{3}$$

左図より、余弦定理より

$$390 \cdot 390 \cdot 3 = (7 + 4\sqrt{3})x^2 + 3(x^2 + 2 \cdot 390x + 390 \cdot 390) - 2(2 + \sqrt{3})x(x + 390)\sqrt{3} \frac{\sqrt{3}}{2}$$

$$0 = (7 + 4\sqrt{3})x^2 + 3x^2 + 6 \cdot 390x - 3x(2x + 2 \cdot 390 + \sqrt{3}x + 390\sqrt{3})$$

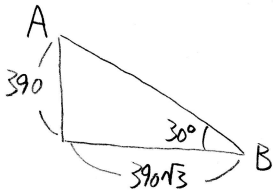
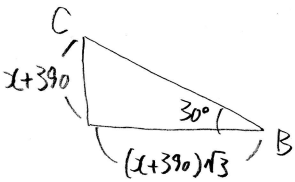
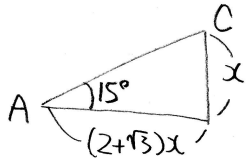
$$(10 + 4\sqrt{3} - 6 - 3\sqrt{3})x + 6 \cdot 390 - 6 \cdot 390 - 3 \cdot 390\sqrt{3} = 0$$

$$(4 + \sqrt{3})x = 3 \cdot 390\sqrt{3}$$

$$x = \frac{3 \cdot 390\sqrt{3}(4 - \sqrt{3})}{(4 + \sqrt{3})(4 - \sqrt{3})} = 90(4\sqrt{3} - 3) = 90 \cdot 3.928 = 353.52$$

$$\frac{1.732}{6.928} \quad \frac{3.928}{35.352}$$

よって C の高さ = 海拔 1957 m



$$\frac{x}{x} = 2 - \sqrt{3}$$

$$x = \frac{(2 + \sqrt{3})x}{(2 - \sqrt{3})(2 + \sqrt{3})} = (2 + \sqrt{3})x$$