

Calculate:

$$((\sqrt{13} + 2)^{\frac{1}{2}} - (\sqrt{13} - 2)^{\frac{1}{2}})^2 \cdot \cos \frac{2}{3}\pi =$$

$$[(\sqrt{13} + 2)^{\frac{1}{2}}]^2 - 2[(\sqrt{13} + 2)^{\frac{1}{2}}](\sqrt{13} - 2)^{\frac{1}{2}} + [(\sqrt{13} - 2)^{\frac{1}{2}}]^2 \cdot \cos \frac{2}{3}\pi =$$

$$(a-b)^2 = a^2 - 2ab + b^2; \quad a^n \cdot b^n = (a \cdot b)^n$$

$$(\sqrt{13} + 2 - 2(13-4)^{\frac{1}{2}} + \sqrt{13} - 2) \cdot \cos \frac{2}{3}\pi =$$

$$\pi = 180^\circ$$

$$(a^{\frac{1}{2}})^2 = a^{\frac{1}{2} \cdot 2} = a^1 = a; \quad (a+b)(a-b) = a^2 - b^2$$

$$\frac{2}{3} \cdot 180^\circ = 120^\circ$$

$$(2\sqrt{13} - 2 \cdot 9^{\frac{1}{2}}) \cdot \cos 120^\circ =$$

$$\cos 120^\circ = \cos(90^\circ + 30^\circ) = -\sin 30^\circ = -\frac{1}{2}$$

$$(2\sqrt{13} - 6) \cdot \left(-\frac{1}{2}\right) =$$

$$-\sqrt{13} + 3 = 3 - \sqrt{13}$$

Is that clear? :)