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Let l^* and w^* be the new length and width. Then $l/w = l^*/w^*$ and $b = l^*w^*/lw$.

We have two equations in two unknowns. Solving the first for l and inserting into the second, we can solve for w^* to yield

1. $w^* = w \sqrt{b}$.

Similarly we find that

2. $l^* = l \sqrt{b}$.

3. Here $\sqrt{b} = \sqrt{0.5}$ so that the new width is $0.707 \times 2.61 = 1.85''$ and the new length is $0.707 \times 6.14 = 4.34'$.

Imagine if, each year, the new dollars were printed in their value related size?