$$2 * 12^{2010} - 3 mod 13 \neq 0$$
$$2 * 12^{2010} - 2 mod 13 = 0$$
$$Proof:$$
$$12^2 mod 13 = (144 - (130 + 13)) = 1$$
$$KeinTaschenrechner$$
$$12^{2010} mod 13 = (12^2)^{1005} mod 13$$
$$= 1^{1005} mod 13 = 1 * 1 \ldots 1 mod 13 = 1$$

$$2 * 12^{2010} mod 13 = 2 * 1 mod 13 = 2$$
$$2 * 12^{2010} mod 13 - 2$$
$$= 2 * 1 mod 13 - 2$$
$$= 2 - 2 = 0$$
$$2 * 12^{2010} mod 13 - 3$$
$$= 2 * 1 mod 13 - 3$$
$$= 2 - 3 = -1 \neq 0$$

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