

YOU & MATHS **Text messaging** At the end of last month Marge had sent 27 more text messages than her older sister, 52 fewer than her friend Julia, and 135 more than her mother. How many messages could Marge have sent if all together her family did not go over the monthly limit of 250 messages?

If Marge has sent M messages, her older sister sent $M - 27$ messages, and her mother sent $M - 135$. Since 250 messages is the monthly limit for Marge's family, you do not need to worry about the friend Julia. All together Marge, her sister, and her mother sent $M + M - 27 + M - 135$, which is $3M - 162$. We know this amount must be equal or less than 250, so $3M - 162 \leq 250$. This gives $3M \leq 412$, which is $M \leq 137$, because you cannot send «a piece of a message» ($137 < 412 : 3 < 138$).