Using the language of algebra

Target Strategies

- using pronumerals to play the card game
- creating algebraic expressions with pronumerals using only addition or subtraction

Tell the students that you want to talk about the two unknown cards and to do so you need to call them something. Let the students make suggestions; we have had Homer and Madge but more often than not they suggest letters (pronumerals) such as *a* and *b* or *x* and *y*. Introduce the term *pronumeral* meaning to stand for a number, and again encourage the students to make a table of values when they need to sort out the possibilities.

Closed Questions

If *a* is 6 and the sum of the two cards is 8, what is the value of *b*?

If the difference between the two numbers is 6 and b is 2, what is the value of *a*?

If the product of *a* and *b* is 12 and a is 4, what is the value of *b*?

Open Questions

If the sum of the two cards is 9 and *a* is an even number, what might be the value of *a* and *b*?

If the product of *a* and *b* is odd what might be the value of *a* and *b*?

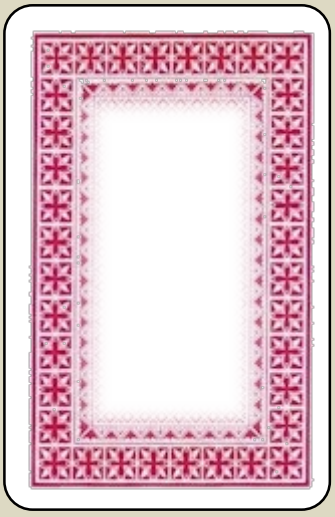
If the difference between *a* and *b* is 6 what might be the value of *a* and *b*?

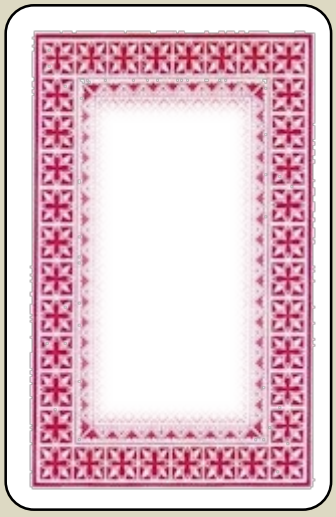
If the difference is equal to 4 less than the sum of *a* and *b*, what might the values of *a* and *b* be?

Flip Questions

Introduce the method of using pronumerals to work out the value of the cards for sum and difference scenarios as shown in slide sequence XX and ensure that the students are confident with it before inviting them to play *Guess my cards* and solving the problems algebraically rather than numerically.

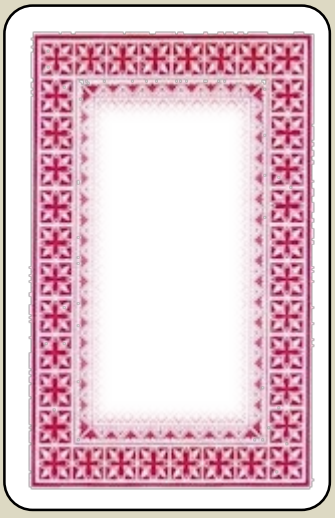
Mental Routine: Sum, Product & Difference

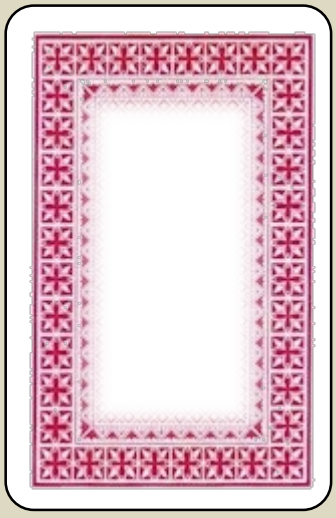




First Card	Second Card

Clues





First Card	Second Card

Clues