## Esyptian Multiplication

In ancient Egypt, a doubling and adding process was used for multiplication.
For example, to multiply $12 \times 24$, follow these steps:


Choose the larger factor in the multiplication statement (24) and double it. Put these two numbers in the doubling column (see below).
Record the multiples of the larger factor as you keep doubling.
Stop doubling when the multiple is greater than the smaller factor (12).

| Doubling | Multiple of 24 |
| :---: | :---: |
| 24 | 1 |
| 48 | 2 |
| 96 | 4 |
| 192 | 8 |
| 384 | 16 |

## Step 2

Select the multiples that add up to the other factor you are multiplying by $(4+8=12)$.

Step 3
(3) Add the corresponding products $(96+192=288)$.

1. Use the ancient Egyptian method to find the products of the expressions below and then check using your usual method.
a. $18 \times 48$
b. $23 \times 745$
2. Try this with some other expressions.
3. Can you explain how the Egyptian method works?

