Partial Products in Algorithms

Let's find partial products.

Warm-up

Which Three Go Together: Multiplying Large Numbers

Which 3 go together?

A

	5,000	300	40	2
4	20,000	?	160	8

B

$$(4 \times 5,000) + (4 \times 300) + (4 \times 40) + (4 \times 2)$$

C

	5,000	300	42
4	20,000	1,200	168

D

	5,000	300	40	2
5	25,000	1,500	200	10

Partial Products Everywhere
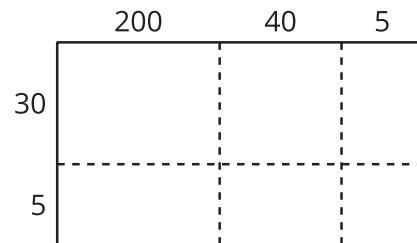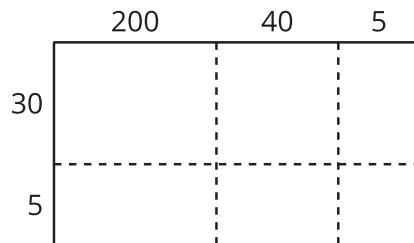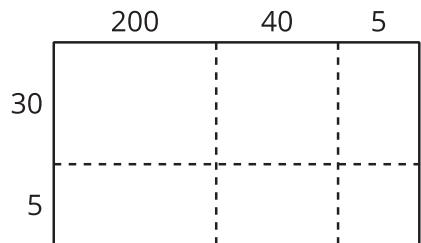
1. Take turns. Choose a set of expressions that when added together have the same value as 245×35. Use the diagrams if they are helpful.

2. Explain how you know the sum of your expressions has the same value as 245×35.

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_____

_____

3. What is the value of 245×35? Explain or show your reasoning.

Record Partial Products

Andre

```
      2  4  5
×        3  5
   6, 0  0  0
   1, 2  0  0
      1  5  0
   1, 0  0  0
      2  0  0
+        2  5
   8, 5  7  5
```

Clare

```
      2  4  5
×        3  5
         2  5
      2  0  0
   1, 0  0  0
      1  5  0
   1, 2  0  0
+  6, 0  0  0
   8, 5  7  5
```

1. How are Andre's and Clare's strategies alike? How are they different?

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_____

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_____

2. Create a list of equations that represent the partial products Andre and Clare found.