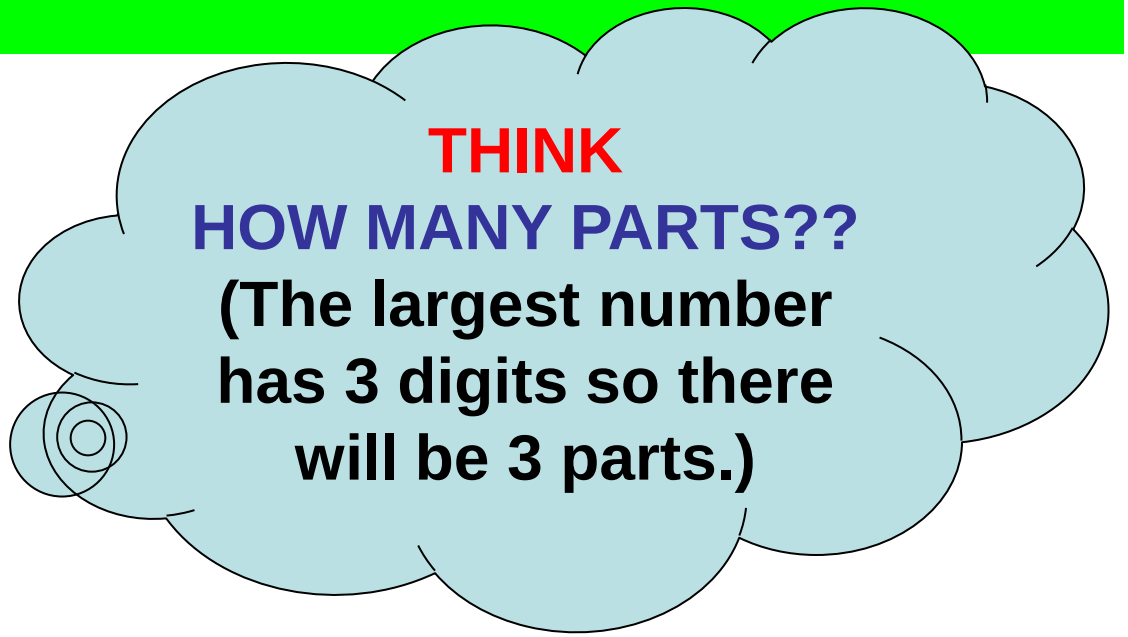
PARTIAL SUMS ADDITION

483

+265



WORK LEFT TO RIGHT…ADD THE COLUMNS

PARTIAL SUMS ADDITION

483

+265

THINK

HOW MANY PARTS??

(The largest number has 3 digits so there will be 3 parts.)

WORK LEFT TO RIGHT…ADD THE COLUMNS

STEP1: ADD

400….4 8 3

+200….2 6 5

6 0 0

PARTIAL SUMS ADDITION

483

+265

THINK

HOW MANY PARTS??

(The largest number has 3 digits so there will be 3 parts.)

WORK LEFT TO RIGHT…ADD THE COLUMNS

STEP 1: ADD

400….4 8 3

+200….2 6 5

6 0 0

STEP 2: ADD

80….4 8 3

+60….2 6 5

6 0 0

1 4 0

PARTIAL SUMS ADDITION

483

+265

THINK

HOW MANY PARTS??

(The largest number has 3 digits so there will be 3 parts.)

WORK LEFT TO RIGHT…ADD THE COLUMNS

STEP 1: ADD

400….4 8 3

+200….2 6 5

6 0 0

STEP 2: ADD

80….4 8 3

+60….2 6 5

6 0 0

1 4 0

STEP 3: ADD

3….4 8 3

+5….2 6 5

6 0 0

1 4 0

8

PARTIAL SUMS ADDITION

483

+265

THINK

HOW MANY PARTS??

(The largest number has 3 digits so there will be 3 parts.)

WORK LEFT TO RIGHT…ADD THE COLUMNS

STEP 1: ADD

400….4 8 3

+200….2 6 5

6 0 0

STEP 2: ADD

80….4 8 3

+60….2 6 5

6 0 0

1 4 0

STEP 3: ADD

3….4 8 3

+5….2 6 5

6 0 0

1 4 0

8

FINAL STEP:

ADD

4 8 3

+ 2 6 5

6 0 0

1 4 0

8

7 4 8

TRADE-FIRST SUBTRACTION

463

- 278

THINK

HOW MANY STEPS BEFORE YOU SUBTRACT?

(The largest number has 3 digits so there will be 3 steps.)

WORK LEFT TO RIGHT…TRADE

STEP 1: TRADE?

Can you remove 2 hundreds from 4 hundreds? YES!

4 6 3

- 2 7 8

TRADE-FIRST SUBTRACTION

463

- 278

THINK

HOW MANY STEPS BEFORE YOU SUBTRACT?

(The largest number has 3 digits so there will be 3 steps.)

WORK LEFT TO RIGHT…TRADE

STEP 1: TRADE?

Can you take 2 hundreds from 4 hundreds? YES!

4 6 3

- 2 78

STEP 2: TRADE?

Can you take 7 tens from 6 tens? NO! TRADE!

3 16

~~4~~ ~~6~~ 3

- 2 7 8

TRADE-FIRST SUBTRACTION

463

- 278

THINK
HOW MANY STEPS BEFORE YOU SUBTRACT?
(The largest number has 3 digits so there will be 3 steps.)

WORK LEFT TO RIGHT…TRADE

STEP 1: TRADE?

Can you take 2 hundreds from 4 hundreds? YES!

4 6 3

- 2 78

STEP 2: TRADE?

Can you take 7 tens from 6 tens? NO! TRADE!

3 16

4 6 3

- 2 7 8

STEP 3: TRADE?

Can you take 8 from 3? NO! TRADE! 15

3 16 13

4 6 3

-2 7 8

TRADE-FIRST SUBTRACTION

463

- 278

THINK
HOW MANY STEPS BEFORE YOU SUBTRACT?
(The largest number has 3 digits so there will be 3 steps.)

WORK LEFT TO RIGHT…TRADE

STEP 1: TRADE?

Can you take 2 hundreds from 4 hundreds? YES!

4 6 3

- 2 78

STEP 2: TRADE?

Can you take 7 tens from 6 tens? NO! TRADE!

3 16

4 6 3

- 2 7 8

STEP 3: TRADE?

Can you take 8 from 3? NO! TRADE!

15

3 16 13

4 6 3

-2 7 8

STEP 4: SUBTRACT

15

3 16 13

4 6 3

- 2 7 8

1 8 5

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP:

WRITE THE PROBLEM

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

THINK

HOW MANY PARTS???

26=20 + 6 → 2 numbers

34=30 + 4 → x2 numbers

4 parts

PART 1:

MULTIPLY

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

(20X30) 600

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP:

WRITE THE PROBLEM

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

THINK

HOW MANY PARTS???

26=20 + 6 → 2 numbers

34=30 + 4 → x2 numbers

4 parts

PART 1:

MULTIPLY

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

(20X30) 600

PART 2:

MULTIPLY

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

(20X30) 600

(20X4) 80

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP:

WRITE THE PROBLEM

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

THINK

HOW MANY PARTS???

26=20 + 6 → 2 numbers

34=30 + 4 → x2 numbers

4 parts

PART 1:	PART 2:	PART 3:
MULTIPLY	MULTIPLY	MULTIPLY
26	26	26
X34	X 34	X34
(20X30) 600	(20X30) 600	(20X30) 600
	(20X4) 80	(20X4) 80
		(30X6) 180

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP:

WRITE THE PROBLEM

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

THINK

HOW MANY PARTS???

26=20 + 6 → 2 numbers

34=30 + 4 → x2 numbers

4 parts

PART 1:	PART 2:	PART 3:	PART 4:
MULTIPLY	MULTIPLY	MULTIPLY	MULTIPLY
26	26	26	26
X34	X 34	X34	X34
(20X30) 600	(20X30) 600	(20X30) 600	(20X30)600
	(20X4) 80	(20X4) 80	(20X4) 80
		(30X6) 180	(30X6) 180
			(6X4) 24

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP:

WRITE THE PROBLEM

$$\begin{array}{r} 26 \\ \times 34 \\ \hline \end{array}$$

THINK

HOW MANY PARTS???

26=20 + 6 → 2 numbers

34=30 + 4 → x2 numbers

4 parts

PART 1: MULTIPLY	PART 2: MULTIPLY	PART 3: MULTIPLY	PART 4: MULTIPLY	FINAL STEP: ADD THE PARTS
26	26	26	26	26
X34	X 34	X34	X34	X34
(20X30) 600	(20X30) 600	(20X30) 600	(20X30)600	(20X30) 600
	(20X4) 80	(20X4) 80	(20X4) 80	(20X4) 80
		(30X6) 180	(30X6) 180	(30X6) 180
			(6X4) 24	(6X4) 24
				884

PARTIAL-QUOTIENTS DIVISION

DIVISOR 5 ⟌ 710 → DIVIDEND

THINK: HOW MANY GROUPS OF 5 ARE THERE IN 710? REMEMBER YOUR FACT EXTENSIONS…WOULD 10 (5s) GET US CLOSE TO 710? HOW ABOUT 100 (5s)?

PARTIAL-QUOTIENTS DIVISION

DIVISOR $5\overline{)710}$ → DIVIDEND

THINK: HOW MANY GROUPS OF 5 ARE THERE IN 710? REMEMBER YOUR FACT EXTENSIONS…WOULD 10 (5s) GET US CLOSE TO 710? HOW ABOUT 100 (5s)?

STEP 1:

$$\begin{array}{r|l} 710 & \\ -500 & 100 \\ \hline 210 & \end{array}$$

THERE ARE AT LEAST 100 (5s) IN 710

PARTIAL-QUOTIENTS DIVISION

DIVISOR 5 ⟌ 710 → DIVIDEND

THINK: HOW MANY GROUPS OF 5 ARE THERE IN 710? REMEMBER YOUR FACT EXTENSIONS…WOULD 10 (5s) GET US CLOSE TO 710? HOW ABOUT 100 (5s)?

STEP 1:

```
5 ⟌ 710
   -500   100
    210
```

THERE ARE AT LEAST 100 (5s) IN 710

STEP 2:

```
5 ⟌ 710
   -500   100
    210
   -200    40
     10
```

HOW MANY 5s ARE IN 210?

100 (5s) = 500 TOO HIGH

50 (5s)= 250 TOO HIGH

40 (5s)= 200

PARTIAL-QUOTIENTS DIVISION

DIVISOR → 5 ⟌ 710 ← DIVIDEND

THINK: HOW MANY GROUPS OF 5 ARE THERE IN 710? REMEMBER YOUR FACT EXTENSIONS…WOULD 10 (5s) GET US CLOSE TO 710? HOW ABOUT 100 (5s)?

STEP 1:

5	710	
	-500	100
	210	

THERE ARE AT LEAST 100 (5s) IN 710

STEP 2:

5	710	
	-500	100
	210	
	-200	40
	10	

HOW MANY 5s ARE IN 210?
100 (5s) = 500 TOO HIGH
50 (5s)= 250 TOO HIGH
40 (5s)= 200

STEP 3:

5	710	
	-500	100
	210	
	-200	40
	10	
	-10	2
	0	

HOW MANY 5s ARE IN 10? 2

PARTIAL-QUOTIENTS DIVISION

DIVISOR 5 | 710 → DIVIDEND

THINK: HOW MANY GROUPS OF 5 ARE THERE IN 710? REMEMBER YOUR FACT EXTENSIONS…WOULD 10 (5s) GET US CLOSE TO 710? HOW ABOUT 100 (5s)?

STEP 1:

```
5 | 710
   -500 | 100
    210
```

THERE ARE AT LEAST 100 (5s) IN 710

STEP 2:

```
5 | 710
   -500 | 100
    210
   -200 |  40
     10
```

HOW MANY 5s ARE IN 210?
100 (5s) = 500 TOO HIGH
50 (5s)= 250 TOO HIGH
40 (5s)= 200

STEP 3:

```
5 | 710
   -500 | 100
    210
   -200 |  40
     10
    -10 |   2
      0
```

HOW MANY 5s ARE IN 10? 2

STEP 4:

```
5 | 710
   -500 | 100
    210
   -200 |  40
     10
    -10 |  +2
      0 | 142
```

ADD THE PARTIAL QUOTIENTS

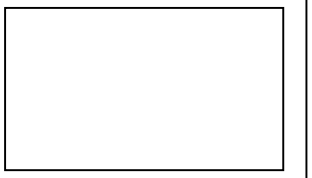
THERE ARE 142 (5s) in 710
710/5 = 142

LATTICE MULTIPLICATION

26

X 4

STEP 1:
DRAW

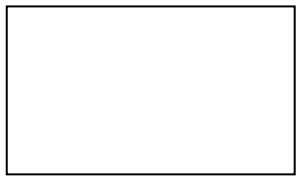


LATTICE MULTIPLICATION

26

X 4

STEP 1:
DRAW



STEP 2:WRITE

2 6 X

4

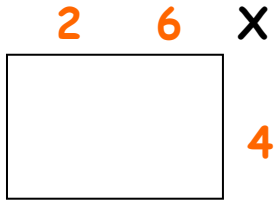
LATTICE MULTIPLICATION

26

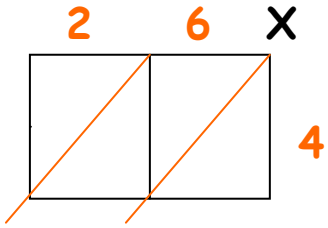
X 4

STEP 1:
DRAW

STEP 2:WRITE



STEP 3: DRAW
LINES

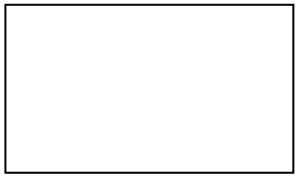


LATTICE MULTIPLICATION

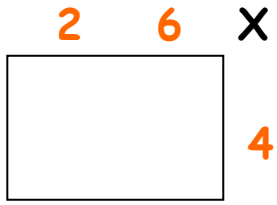
26

X 4

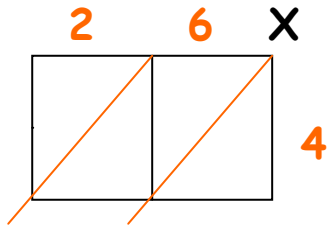
STEP 1:
DRAW



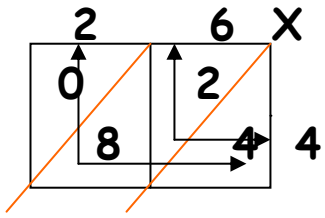
STEP 2:WRITE



STEP 3: DRAW LINES



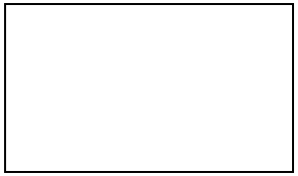
STEP 4:
MULTIPLY



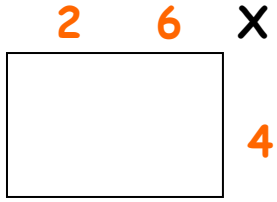
LATTICE MULTIPLICATION

26
X 4

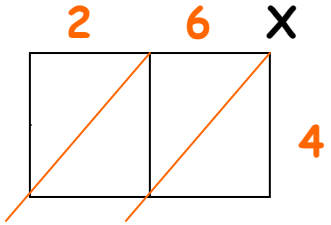
STEP 1:
DRAW



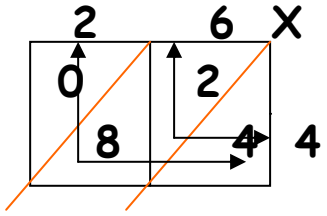
STEP 2:WRITE



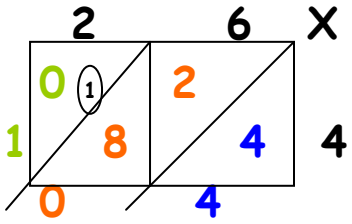
STEP 3: DRAW LINES



STEP 4:
MULTIPLY



STEP 5: ADD

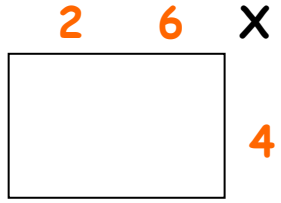


LATTICE MULTIPLICATION

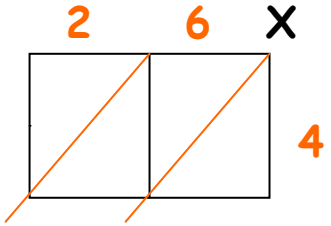
26
X 4

STEP 1:
DRAW

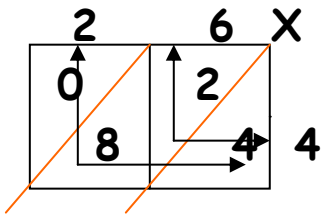
STEP 2:WRITE



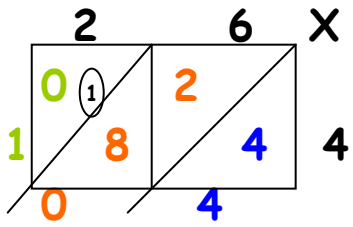
STEP 3: DRAW LINES



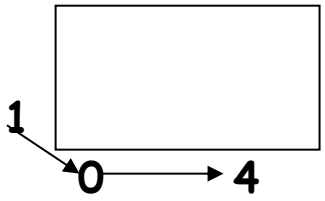
STEP 4:
MULTIPLY



STEP 5: ADD



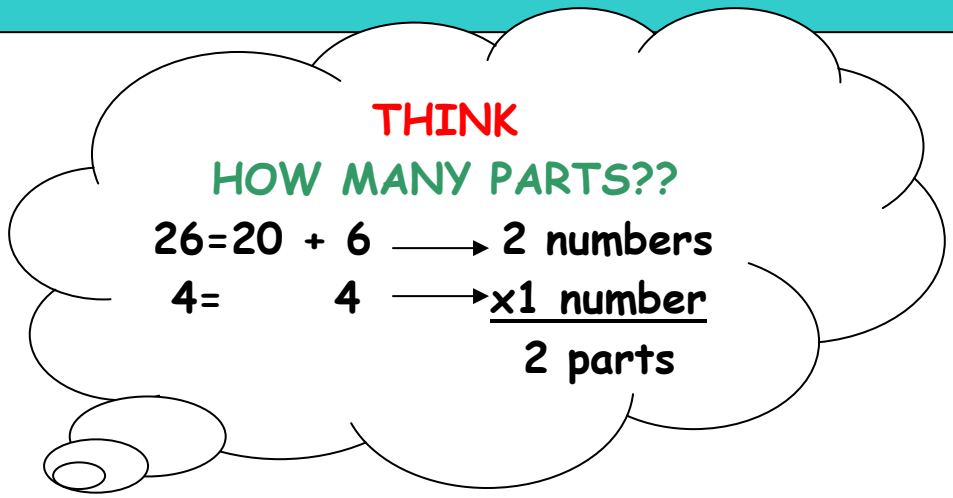
STEP 6: WRITE THE ANSWER



PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP: 26

WRITE THE PROBLEM X 4



PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP: **26**

WRITE THE PROBLEM X **4**

THINK

HOW MANY PARTS??

26=20 + 6 → 2 numbers

4= 4 → x1 number

2 parts

PART 1:

MULTIPLY

26

X 4

(20X4) 80

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP: **26**

WRITE THE PROBLEM X **4**

THINK

HOW MANY PARTS??

26=20 + 6 → 2 numbers

4= 4 → x1 number

2 parts

PART 1:
MULTIPLY
26
X 4
(20X4) 80

PART 2:
MULTIPLY
26
X 4
(20X4) 80
(6X4)24

PARTIAL PRODUCTS MULTIPLICATION

FIRST STEP: **26**

WRITE THE PROBLEM X **4**

THINK

HOW MANY PARTS??

26=20 + 6 → 2 numbers

4= 4 → x1 number

2 parts

PART 1:
MULTIPLY

26
X 4
(20X4) 80

PART 2:
MULTIPLY

26
X 4
(20X4) 80
(6X4)24

FINAL STEP:
ADD THE PARTS

26
X 4
(20X4) 80
(6X4) +24
104

COUNTING UP

COUNT UP FROM THE SMALLER NUMBER TO THE LARGER NUMBER USING A COMBINATION OF MULTIPLES OF 10s AND 1s

71	46
-46	+ 4
	50
	+ 10
	60
	+ 10
	70
	+ 1
	71

10+10+4+1=25

343	158
-158	+ 2
	160
	+ 40
	200
	+100
	300
	+ 40
	340
	+ 3
	343

100+40+40+3+2=185