Name _____   Date _____

1. Write the products as fast as you can into the chart.

×	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6	7	8
2	2	4	6	8	10	12	14	16
3	3	6	9	12	15	18	21	24
4	4	8	12	16	20	24	28	32
5	5	10	15	20	25	30	35	40
6	6	12	18	24	30	36	42	48
7	7	14	21	28	35	42	49	56
8	8	16	24	32	40	48	56	64

a. Color the rows and columns with even factors yellow.

b. What do you notice about the factors and products that are left unshaded?

The unshaded factors and products are all odd numbers.

c. Complete the chart below by filling in each blank and writing an example for the each rule.

Rule	Example
odd times odd equals _odd_	$3 \times 5 = 15$ $7 \times 7 = 49$
even times even equals _even_	$4 \times 8 = 32$ $2 \times 8 = 16$
even times odd equals _even_	$6 \times 3 = 18$ $2 \times 7 = 14$

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d. Explain how $7 \times 6 = (5 \times 6) + (2 \times 6)$ is shown in the table.

The table shows 5×6=30 and 2×6=12. So, 30 + 12 =42, which is the product of 7×6.

e. Use what you know to find the product of 4×16 or 8 fours + 8 fours.

$4 \times 16 = (4 \times 8) + (4 \times 8)$
$\qquad = 32 + 32$
$\qquad = 64$

2. In the lesson, we found that $n \times n$ is the sum of the first n odd numbers. Use this pattern to find the value of *n* for each equation below. The first is done for you.

a. $1 + 3 + 5 = n \times n$

   9 = 3 × 3

b. $1 + 3 + 5 + 7 = n \times n$

   $16 = 4 \times 4$

c. $1 + 3 + 5 + 7 + 9 + 11 = n \times n$

   $36 = 6 \times 6$

d. $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 = n \times n$

   $64 = 8 \times 8$

e. $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 = n \times n$

   $100 = 10 \times 10$

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