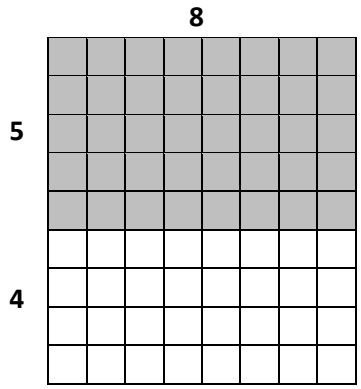
Name _____ Date _____

1. Label the side lengths of the shaded and unshaded rectangles. Then find the total area of the large rectangle by adding the areas of the 2 smaller rectangles.

a.



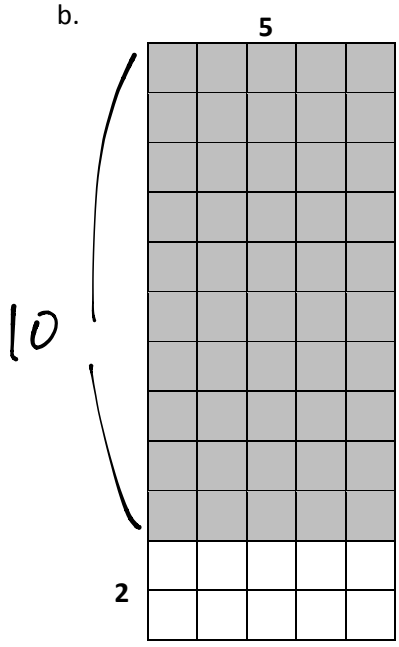
$9 \times 8 = (5 + 4) \times 8$

$= (5 \times 8) + (4 \times 8)$

$= 40 + 32$

$= 72$ square units

b.



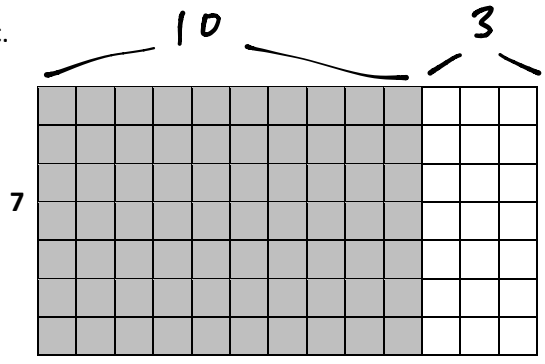
$12 \times 5 = (10 + 2) \times 5$

$= (10 \times 5) + (2 \times 5)$

$= 50 + 10$

$= 60$ square units

c.



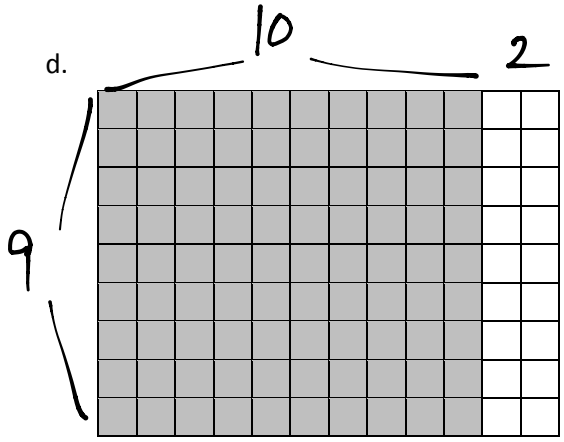
$7 \times 13 = 7 \times (10 + 3)$

$= (7 \times 10) + (7 \times 3)$

$= 70 + 21$

$= 91$ square units

d.



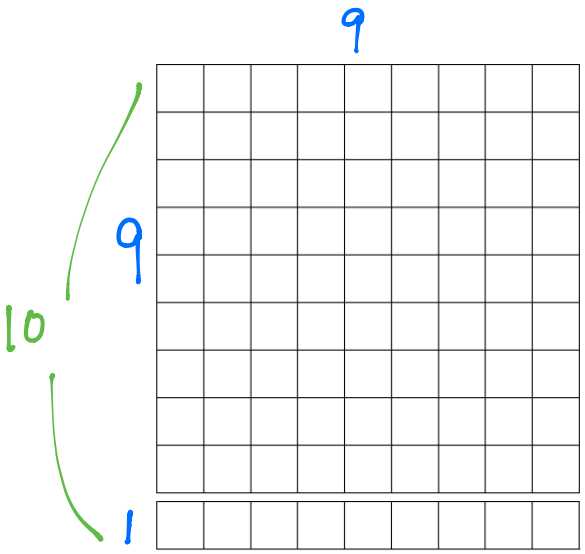
$9 \times 12 = 9 \times (10 + 2)$

$= (9 \times 10) + (9 \times 2)$

$= 90 + 18$

$= 108$ square units

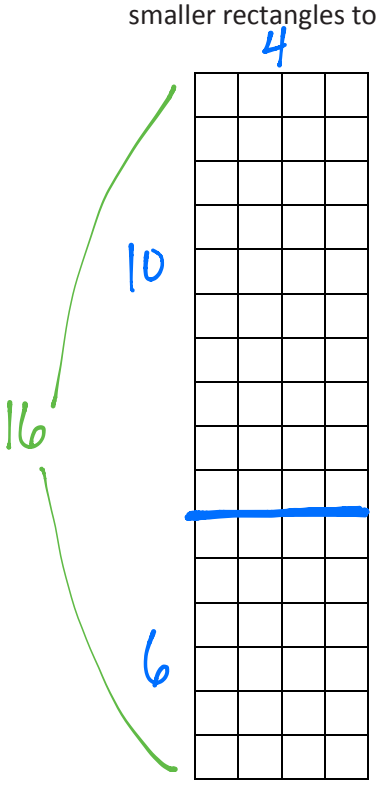
2. Finn imagines 1 more row of nine to find the total area of 9 × 9 rectangle. Explain how this could help him solve 9 × 9.



$$9 \times 9 = (10-1) \times 9$$
$$= (10 \times 9) - (1 \times 9)$$
$$= 90 - 9$$
$$= 81$$

10 nines is 90, but Finn only wanted 9 nines, so he needed to subtract one nine from 90, which gives 81 as the product.

3. Shade to break the 16 × 4 rectangle into 2 smaller rectangles. Then find the sum of the areas of the 2 smaller rectangles to find the total area. Explain your thinking.



$$16 \times 4 = (10+6) \times 4$$
$$= (10 \times 4) + (6 \times 4)$$
$$= 40 + 24$$
$$= 64$$

We cut the 16 x 4 rectangle into two smaller rectangles: one is 10x4 and the other is 6x4. Their areas are 40 square units and 24 square units. The total area is 40 + 24 = 64 square units.