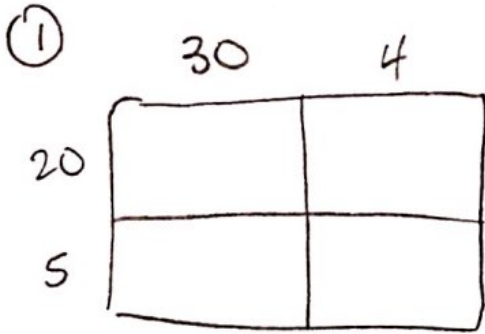
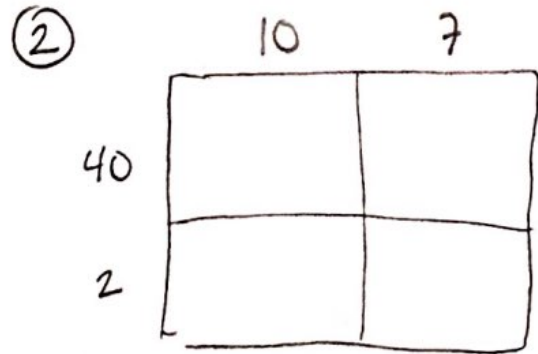


Warm-up:

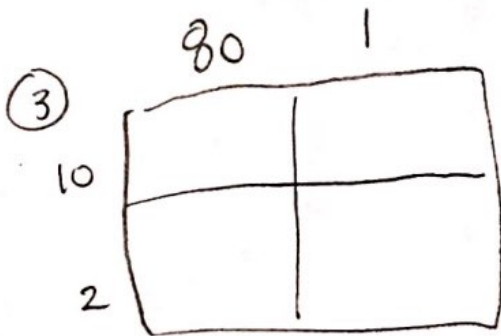
Find the Area of each rectangle.



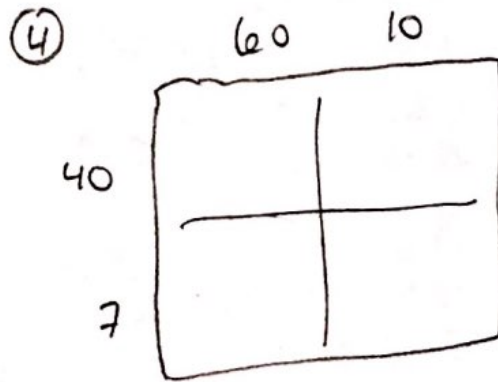
product = Sum



product = Sum

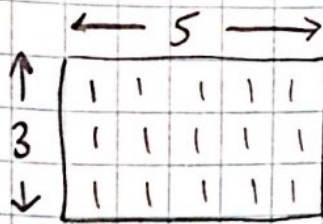


product = Sum



product = Sum

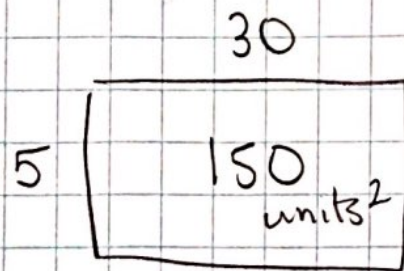
Using Area to Multiply:



Area
product = sum

$$\boxed{5 \cdot 3} = 15 = 1 + 1 + 1 \dots 15$$

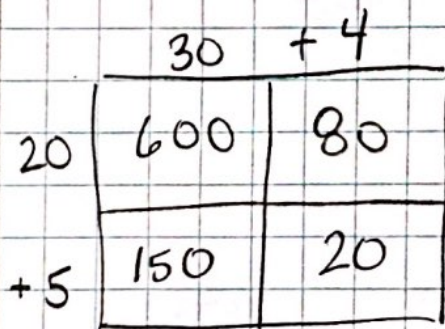
l.w



Area:
product = sum

l.w $1 + 1 + 1 \dots 150$

$$5 \cdot 30 = 150 = 150$$



product = sum

$$25 \cdot 34 = 600 + 150 + 80 + 20$$
$$= \boxed{850}$$

Using a generic rectangle/box to multiply binomials:

① $(2n+2)(6n+1)$

	$2n$	$+2$
$6n$	$12n^2$	$12n$
$+1$	$2n$	2

$$12n^2 + 12n + 2n + 2$$

$$\boxed{12n^2 + 14n + 2}$$

product = sum

$$(2n+2)(6n+1) = 12n^2 + 14n + 2$$

② $(8p-2)(6p+2)$

	$6p$	$+2$
$8p$	$48p^2$	$16p$
-2	$-12p$	-4

$$\boxed{48p^2 + 4p - 4}$$

product = sum

$$(8p-2)(6p+2) = 48p^2 + 4p - 4$$

③

	$5p$	-8
$6p$	$30p^2$	$-48p$
$+8$	$40p$	-64

$30p^2 - 8p - 64$

product = sum

$$(6p+8)(5p-8) = 30p^2 - 8p - 64$$

④

	$3m$	-1
$8m$	$24m^2$	$-8m$
$+7$	$21m$	-7

product = sum

$$(8m+7)(3m-1) = 24m^2 + 13m - 7$$

⑤

	$2a$	-1
$8a$	$16a^2$	$-8a$
-5	$-10a$	$+5$

product = sum

$$(2a-1)(8a-5) = 16a^2 - 18a + 5$$

⑥

	$5n$	$+6$
$5n$	$25n^2$	$30n$
-5	$-25n$	-30

product = sum

$$(5n+6)(5n-5) = 25n^2 + 5n - 30$$