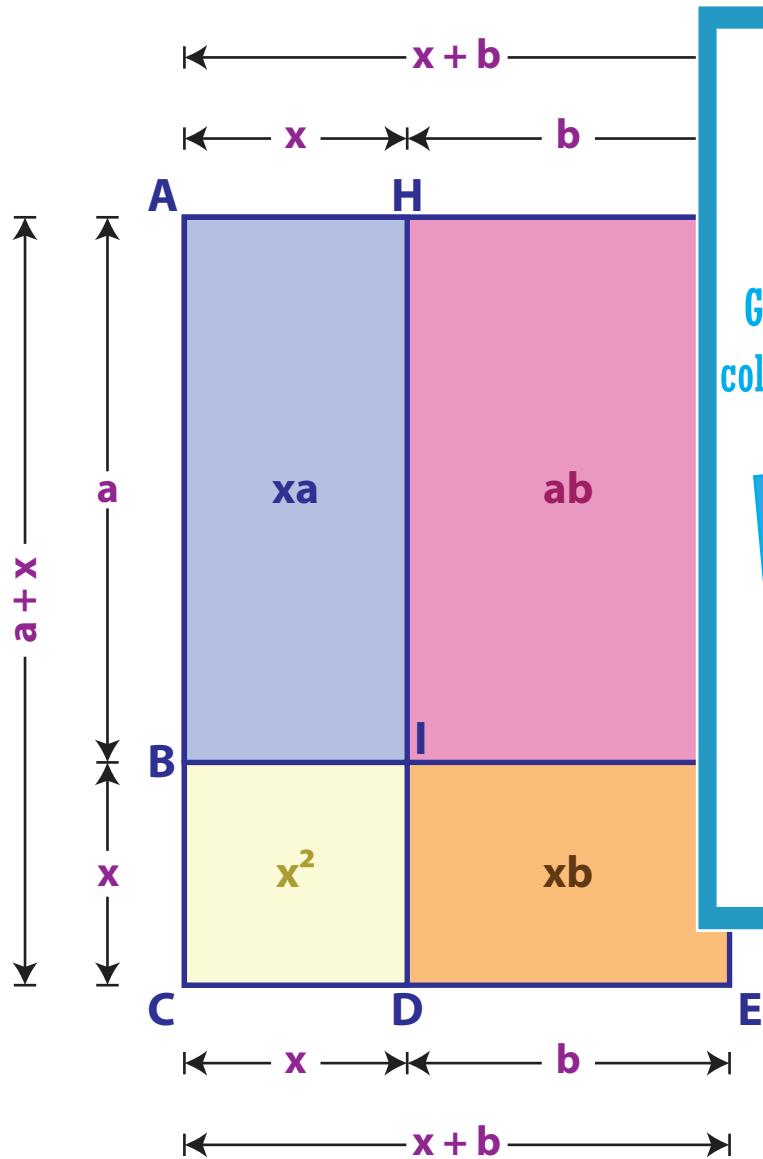


Name: \_\_\_\_\_

# ALGEBRAIC IDENTITY - PRODUCT OF TWO BINOMIAL

$$(x + a)(x + b) = x^2 + (a + b)x + ab$$



Area of rectangle ACEG =  $(x + a)(x+b)$ .....(1)

Area of rectangle BCDI =  $x^2$ .....(2)

Area of rectangle DEFI =  $xb$ .....(3)

Area of rectangle ABHI =  $xa$ .....(4)

Area of rectangle FGHI =  $ab$ .....(5)

From (4) and (5) we have,

$$\text{Area of ACEG} = \text{Area of BCDI} + \text{Area of DEFI} + \text{Area of ABHI} + \text{Area of FGHI}$$

$$(x + a)(x + b) = x^2 + xb + xa + ab$$

$$(x + a)(x + b) = x^2 + (a + b)x + ab$$
.....(6)

From (1) and (6) we have,

$$(x + a)(x + b) = x^2 + (a + b)x + ab$$

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