

Name: _____

Date: Aug 29

Hour: 2nd

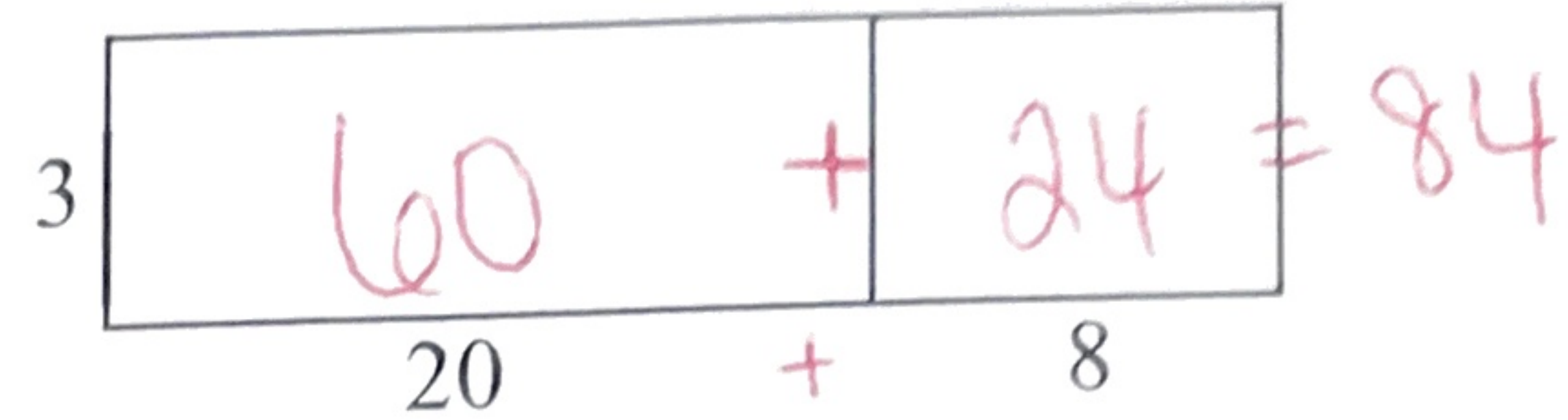
Unit 1 Day 9: The Distributive Property

Focus Question: How do I use the distributive property?

A. Without a calculator, multiply: $28 \cdot 3$.

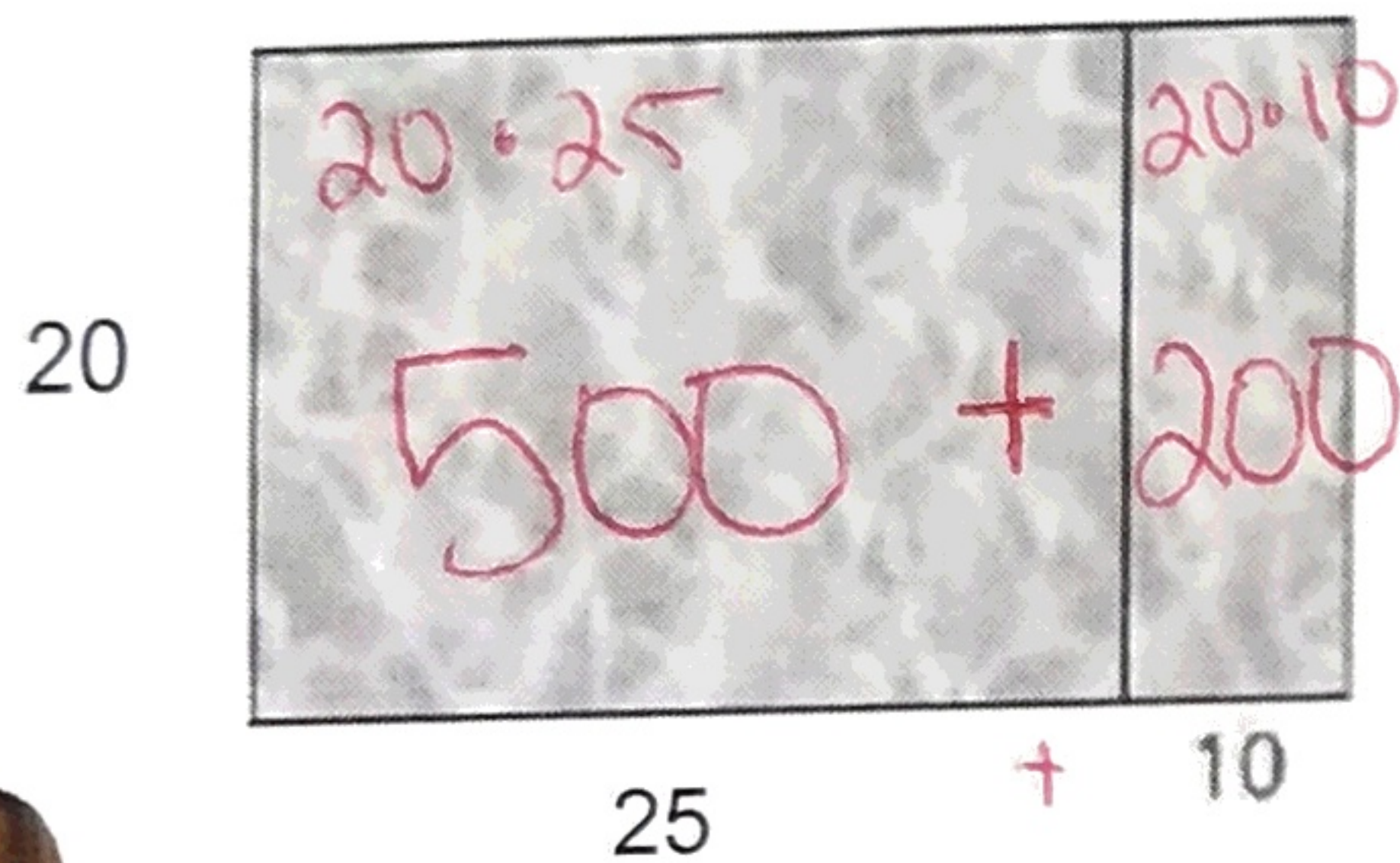
1. Explain your strategy.

2. Use the square strategy



B. The following pictures are pools with a swimming area and diving area. What is the area of the entire pool?

Pool 1



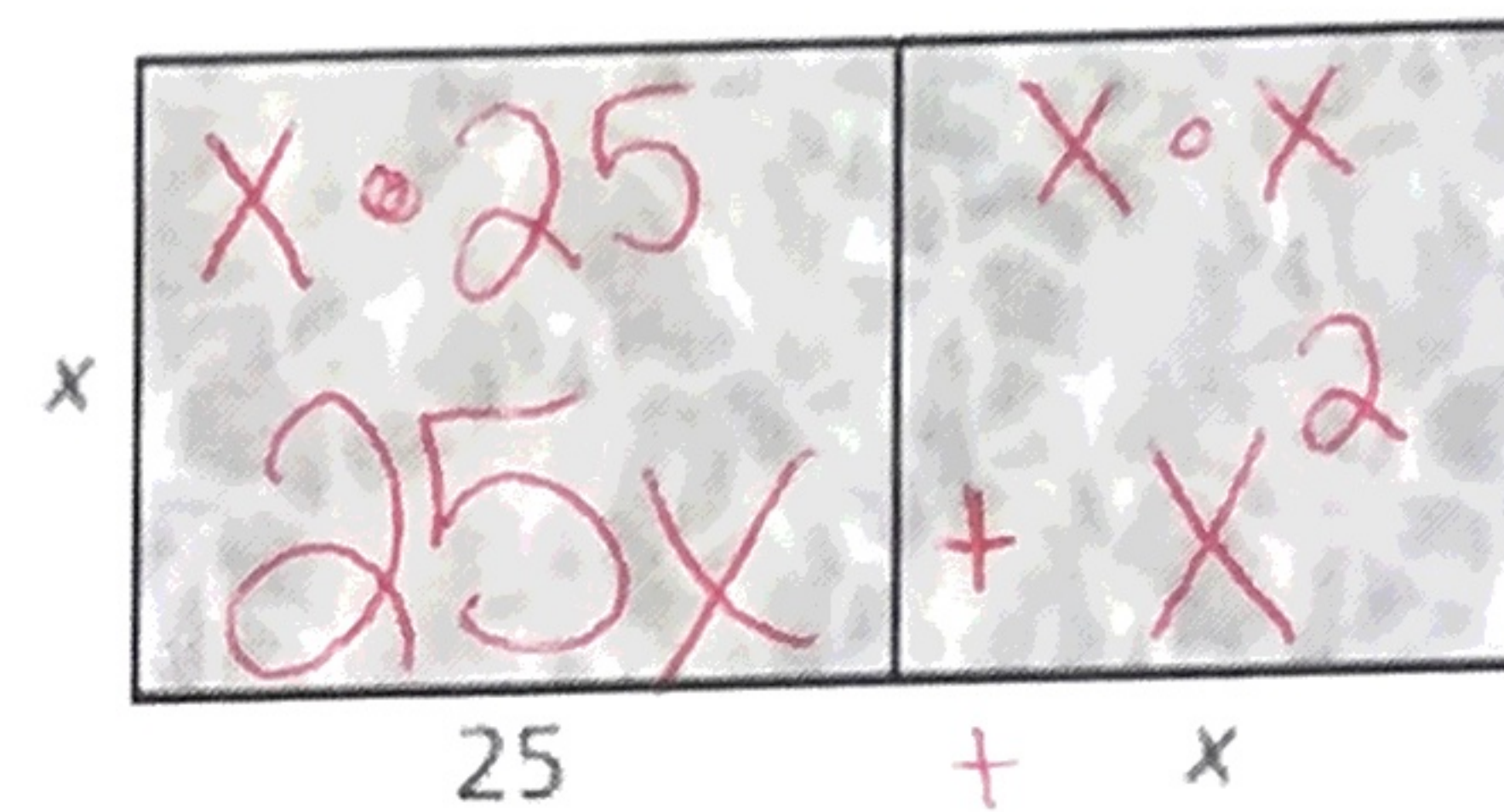
Area =

700

Problem you just did:

$20(25+10)$

Pool 3



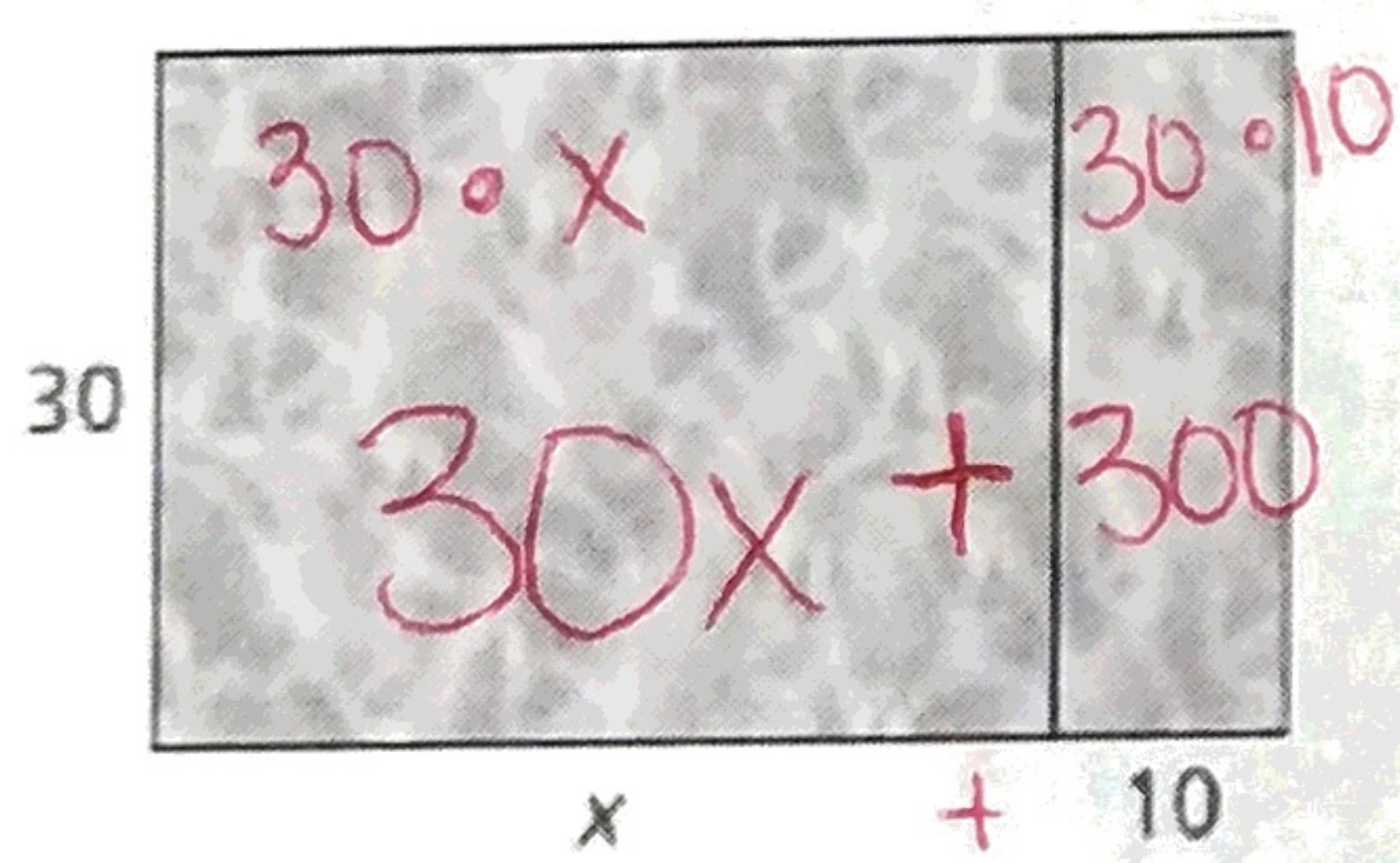
Area =

$25x + x^2$

Problem you just did:

$x(25+x)$

Pool 2



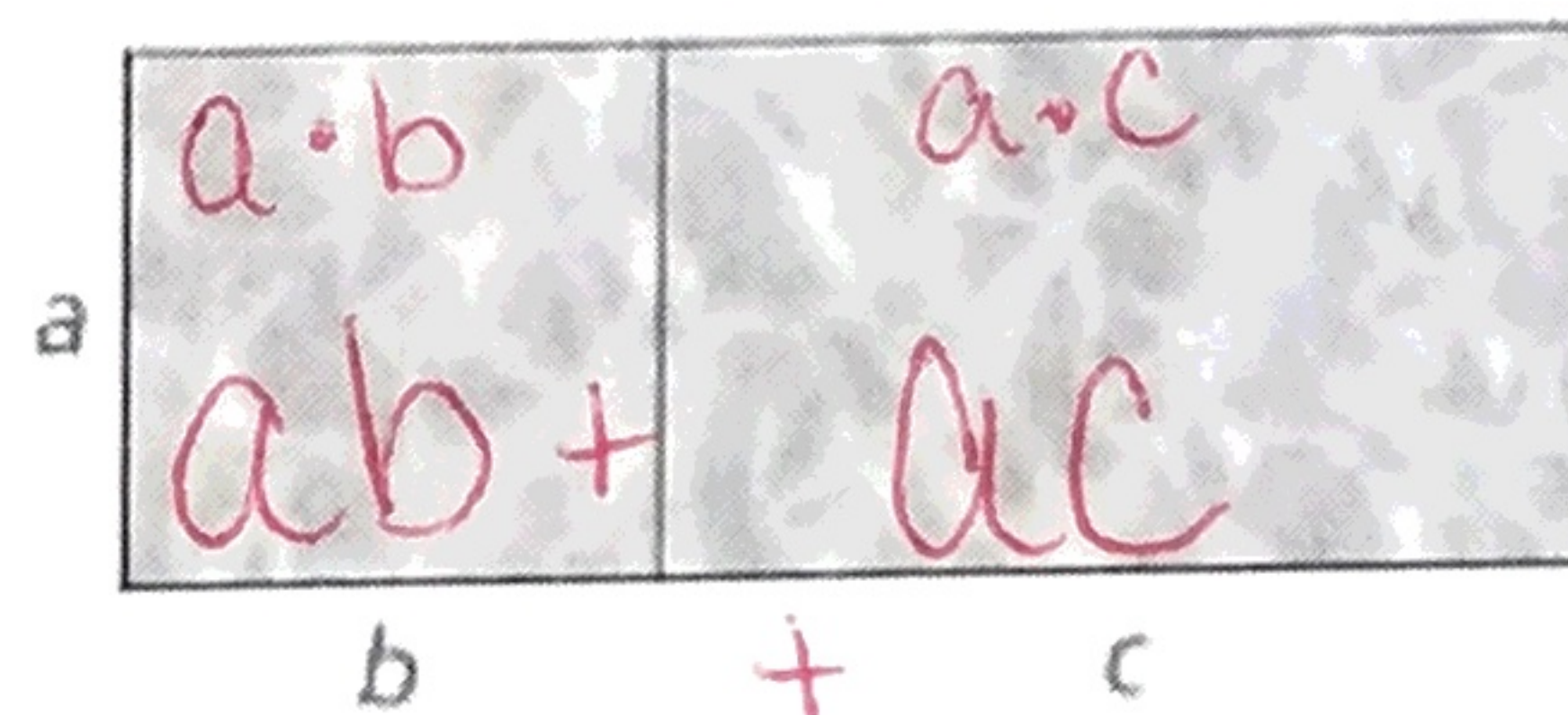
Area =

$30x + 300$

Problem you just did:

$30(x+10)$

Pool 4



Area =

$ab + ac$

Problem you just did:

$a(b+c)$

The distributive property says for all real numbers a, b, and c,

$a(b+c) = ab + ac$

$a(b+c)$ is called factored form $ab + ac$ is called expanded form

C. Use the Distributive Property to write each expression in expanded form.

1. $3(x+5)$

$3 \cdot x + 3 \cdot 5$

$3x + 15$

2. $6(2x-4)$

$6 \cdot 2x + 6 \cdot -4$

$12x - 24$

$$3. \quad -9(3r + 6) \quad \begin{array}{r} -9 \cdot 3r - 9 \cdot 6 \\ -27r - 54 \end{array}$$

$$4. \quad 4(2m - 7) \quad \begin{array}{r} 4 \cdot 2m + 4 \cdot -7 \\ 8m - 28 \end{array}$$

$$5. \quad 7(2 + 8n) \quad \begin{array}{r} 7 \cdot 2 + 7 \cdot 8n \\ 14 + 56n \end{array}$$

$$6. \quad -2(9 - 4k) \quad \begin{array}{r} -2 \cdot 9 - 2 \cdot -4k \\ -18 + 8k \end{array}$$

D. Use the distributive property to solve each equation
Together:

$$1) \quad 2(3a + 2) = -8$$

$$2 \cdot 3a + 2 \cdot 2 = -8$$

$$6a + 4 = -8$$

$$\begin{array}{r} 6a + 4 = -8 \\ \downarrow -4 \quad -4 \\ \hline 6a = -12 \\ \downarrow 6 \\ a = -2 \end{array}$$

$$2) \quad -(3k - 12) = 48$$

$$-1 \cdot 3k - 1 \cdot -12 = 48$$

$$-3k + 12 = 48$$

$$\begin{array}{r} -3k + 12 = 48 \\ \downarrow -12 \quad -12 \\ \hline -3k = 36 \\ \downarrow -3 \\ k = -12 \end{array}$$

Partner Rally Coach

$$A \text{ works) } \frac{1}{2}(4x - 6) = 11$$

$$B \text{ works) } -4(2x + 3) = 10$$

$$\frac{1}{2} \cdot 4x + \frac{1}{2} \cdot -6 = 11$$

$$2x - 3 = 11$$

$$\begin{array}{r} 2x - 3 = 11 \\ \downarrow +3 \quad +3 \\ \hline 2x = 14 \\ \downarrow 2 \\ x = 7 \end{array}$$

$$* \text{ You Try: } 6(2x - 8) = -12$$

$$6 \cdot 2x + 6 \cdot -8 = -12$$

$$12x - 48 = -12$$

$$\begin{array}{r} 12x - 48 = -12 \\ \downarrow +48 \quad +48 \\ \hline 12x = 36 \end{array}$$

$$\begin{array}{r} 12x = 36 \\ \downarrow 12 \quad 12 \\ x = 3 \end{array}$$

$$x = 3$$