

Multiplication - D.P.

Learning Goal:

By the end of this lesson I should be able to MULTIPLY single and double digit positive numbers together using the DISTRIBUTIVE PROPERTY of MULTIPLICATION, WITHOUT the use of a calculator (technology).

It is important to remember that **MULTIPLICATION** is a shortcut for repetitive addition.

When we are asked to multiply numbers together, the final result is called the **PRODUCT**.

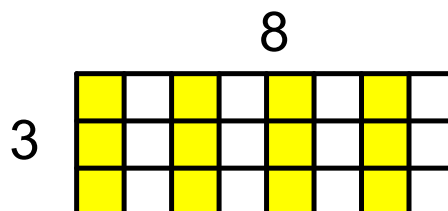
Product -> Multiply -> "Times"

(similar meaning)

Area Model and Friendly Numbers

"Eight times three" can be represented by the following:

$$(3)(8) = 24$$



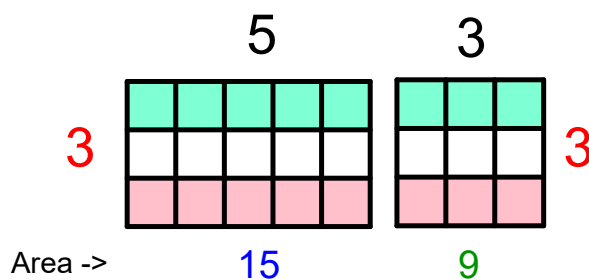
$$(3)(8)$$

$$= (3)(5+3) \quad (\text{distributive property})$$

$$= (3)(5) + (3)(3)$$

$$= 15 + 9$$

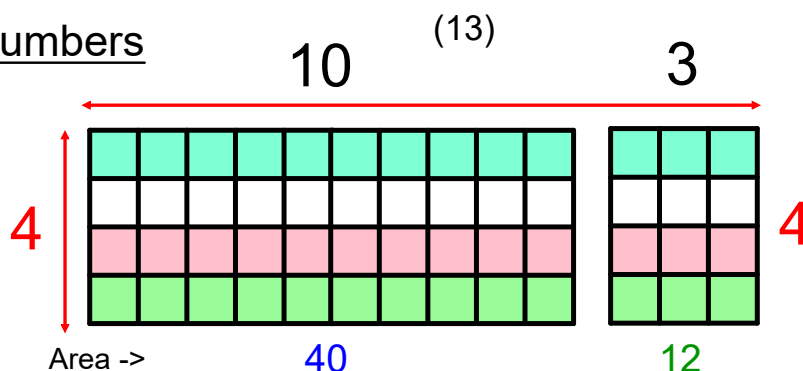
$$= 24$$



Find the product of 4×13

Area Model - Friendly Numbers

$$4 \times 13 = 52$$



Number Model - Distributive Property

$$(4)(13)$$

$$=(4)(10+3)$$

$$=(4)(10)+(4)(3) \quad (\text{distributive property})$$

$$= 40 + 12$$

$$= 52$$

Find the product of 8×21

Number Model - Dist. Prop

$$(8)(21)$$

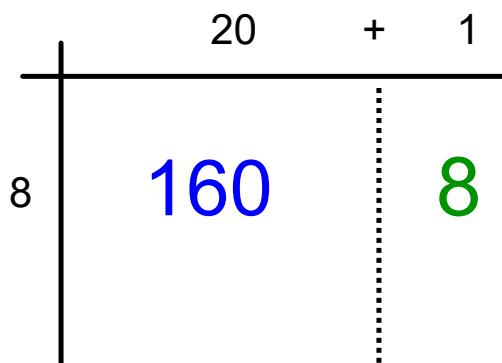
$$=(8)(20+1)$$

$$=(8)(20)+(8)(1) \text{ (dist. prop.)}$$

$$= 160 + 8$$

$$= 168$$

Area Model - Friendly Numbers



Be Careful! There are some tricky parts!

Find the product of 6×75

Number Model - Dist. Prop

Area Model - Friendly Numbers

$$(6)(75)$$

$$= (6)(50+20+5)$$

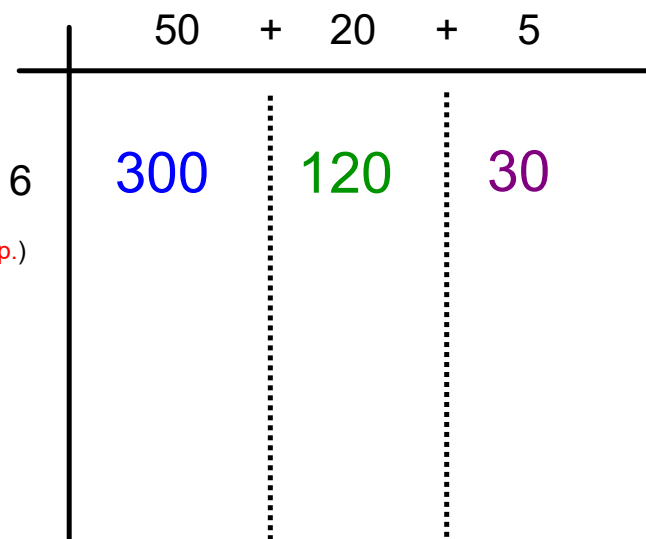
$$= (6)(50)+(6)(20)+(6)(5) \text{ (dist. prop.)}$$

$$= (300)+(120)+(30)$$

$$= 300 + 100 + 20 + 30$$

$$= 400 + 50$$

$$= 450$$



Find the PRODUCT for the following using the Distributive Property.

(a) $(5)(14)$ $(5)(10+4) =$

(b) $(8)(28)$ $(8)(20+8) =$

(c) $(6)(125)$ $(6)(100+20+5) =$

Task - 2.4