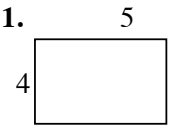
Task #11: Distributive Property Using Area

Distributive Property Using Area

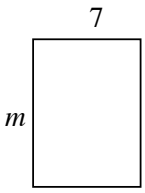
NAME _____

Write the expression that represents the area of each rectangle.

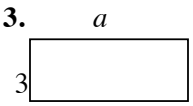
1.



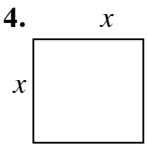
2.



3.

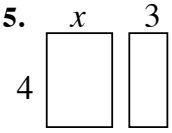


4.

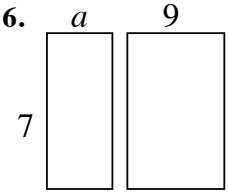


Find the area of each box in the pair.

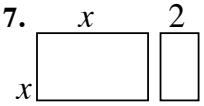
5.



6.

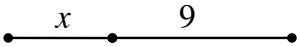


7.



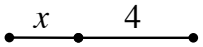
Write the expression that represents the total length of each segment.

8.



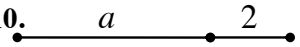
_____

9.



_____

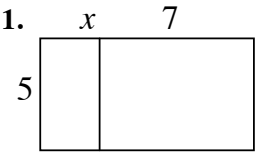
10.



_____

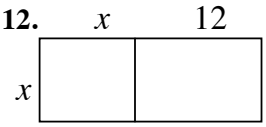
Write the area of each rectangle as the product of ***length*** × ***width*** and also as a sum of the areas of each box.

11.



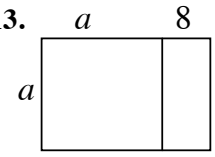
AREA AS PRODUCT	AREA AS SUM
5(x+7)	5x+35

12.



AREA AS PRODUCT	AREA AS SUM

13.



AREA AS PRODUCT	AREA AS SUM

This process of writing these products as a sum uses the **distributive property**.

Use the distributive property to re-write each expression as a sum. You may want to draw a rectangle on a separate page to follow the technique above.

14. $4(x+7)=$_____
15. $7(x-3)=$_____
16. $-2(x+4)=$_____
17. $x(x+9)=$_____
18. $a(a-1)=$_____
19. $3m(m+2)=$_____
20. $-4(a-4)=$_____
21. $a(a-12)=$_____

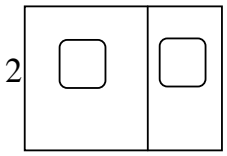
Task #12: Factoring a Common Factor Using Area

Factoring a Common Factor Using Area

NAME _____

Fill in the missing information for each: dimensions, area as product, and area as sum

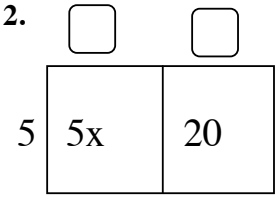
1.



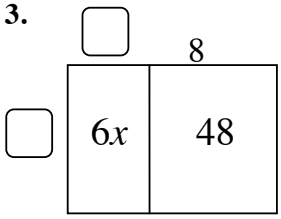
2(x+6)

2x+12

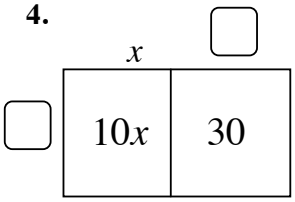
2.



3.

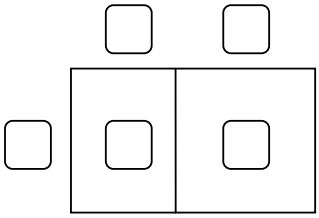


4.

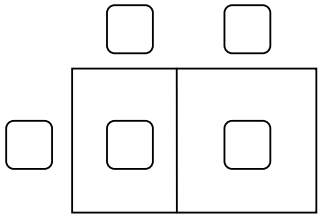


Fill in the missing dimensions from the expression given.

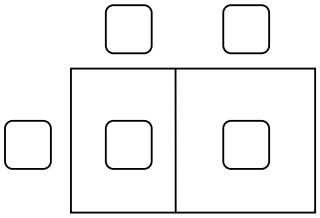
5. $5x+35=5$(_____)



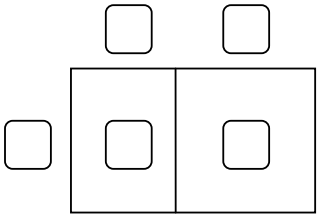
6. $2x+12=2$(_____)



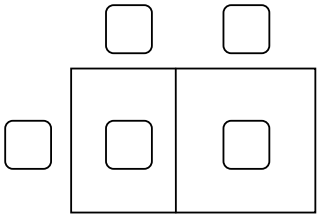
7. $3x-21=$ __(_____)



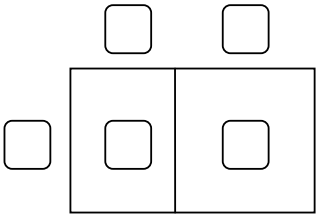
8. $7x-21=$ __(_____)



9. $-3x-15=-3$(_____)



10. $-5x+45=$ _____



This process of writing a sum or difference as the product of factors is called **factoring**.

Factor these:

11. $4x-16=$ _____

12. $-7x-35=$ _____

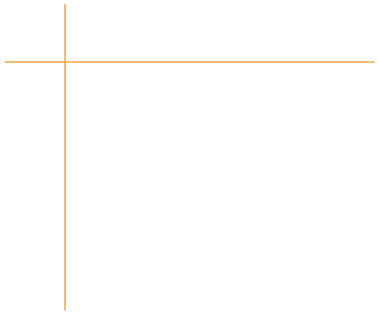
13. $9x-81=$ _____

14. $4x+18=$ _____

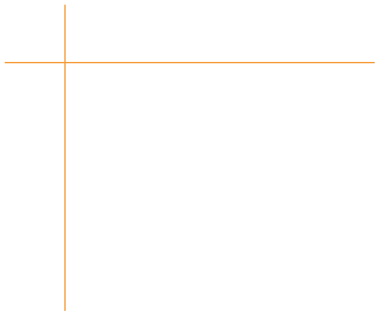
Task #13: Distributive Property

Are the expressions equivalent? Sketch and simplify to prove. If the two expressions are not equal write the correct equivalence.

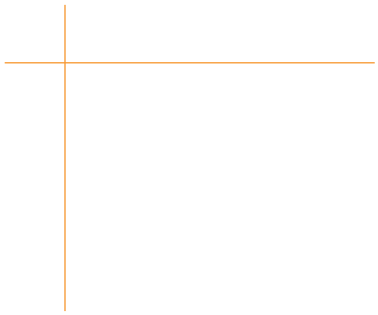
1. 3(x+3) and 3x+6



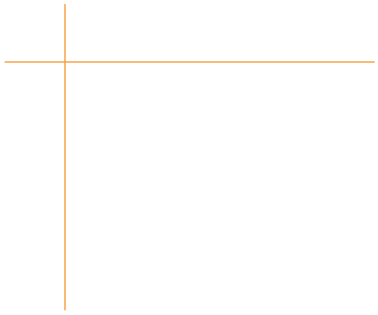
2. 6(y+1) and 6y+6



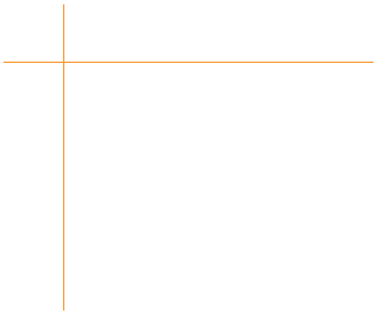
3. x(x+4) and x^2+4



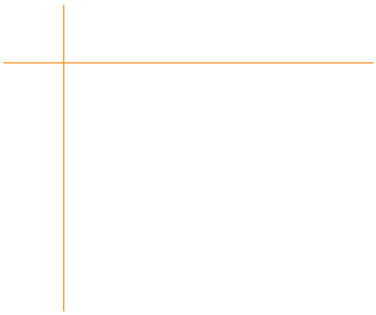
4. y(x+ 2) and xy+2y



5. $x(x+y+2)$ and $x^2+xy+2x$



6. $2x(x+3)$ and $2x+6$



Distribute the following. Use a sketch or just distribute if you can.

1. $3(x+2)$

2. $4(y-1)$

3. $x(x+6)$

4. $x(y+4)$

5. $3x(x+y-1)$