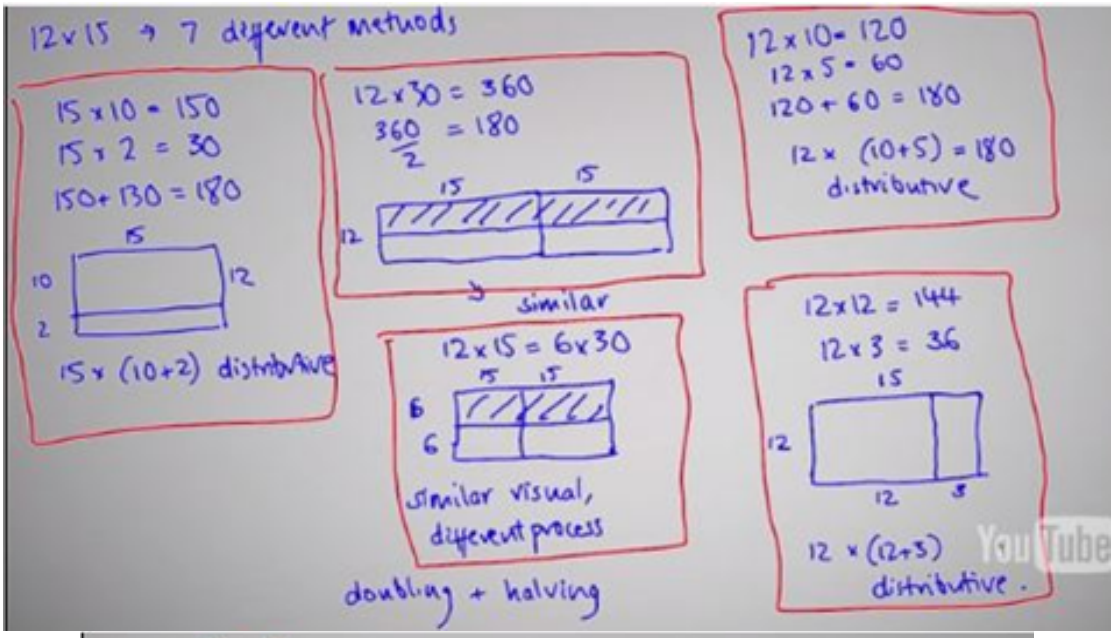
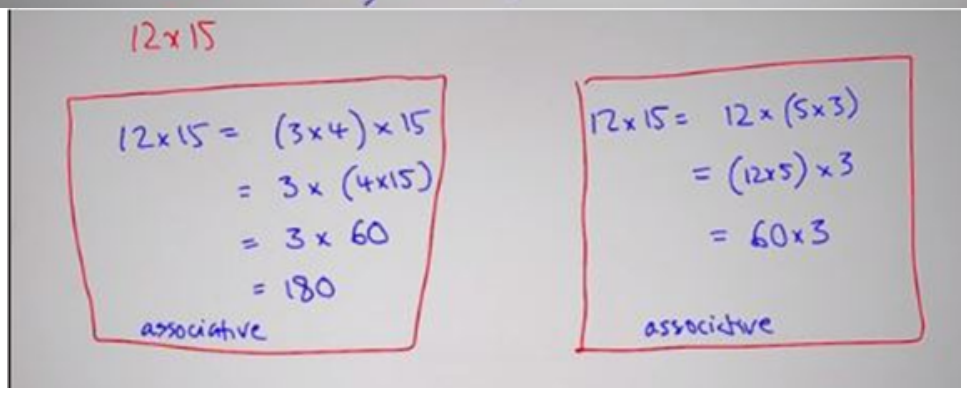
Number Talk

Find 12 x 15 in as many different ways as possible.
Show visual representations, if possible.





Distributive Property... day 2

What does 3(5) mean?

What does 3(x) mean?

What does 3(5x) mean?

What about 3(x + y)?

shortcut: $3(x + y) = 3x + 3y$

This is the distributive property!

9 a

$$3[x+2(x-4)]$$

$$= 3[x+2x-8]$$

$$= 3[3x-8]$$

$$= 9x-24$$

c) $3[2k-1(2+k)]$

$$= 3[2k-2-k]$$

$$= 3(1k-2)$$

$$= \frac{3k-6}{3}$$

Distributive Property... day 2

Ex. 1 Simplify

a) 4(2a + b)

$= 8a + 4b$

b) 2(4a - 3)

$= 8a - 6$

c) -4(2a + b)

$= -8a - 4b$

d) -2(4a - 3)

$= -8a + 6$

Ex. 2 Simplify

a) $2x(x + 1)$

$= 2x^2 + 2x$

b) $-3y(4x - 2y)$

$= -12xy + 6y^2$

c) $4a(2a^2 - 3ab^2) + 5b(a + 2ab)$

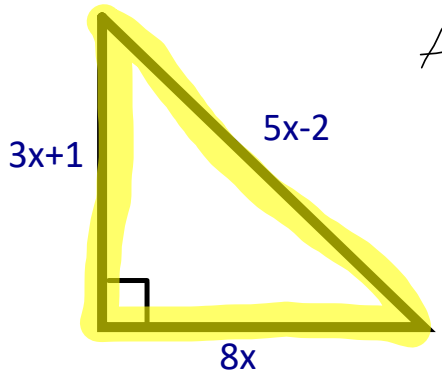
$= 8a^3 - 12a^2b^2 + 5ab + 10ab^2$

d) $6xy(2x^2 - y) - 3y(4x^3 - 5xy)$

$= 12x^3y - 6xy^2 - 12x^3y + 15xy^2$

$= 9xy^2$

Ex. 3: Find the area and perimeter of the right angle triangle. (Simplify)



$A = \frac{bh}{2}$

$= \frac{8x(3x+1)}{2}$

$= \frac{24x^2 + 8x}{2}$

$(3x+1)(8x)$

$= \frac{24x^2}{2} + \frac{8x}{2}$

$(3x+1)(8x)$

$A = 12x^2 + 4x$ units^2 (c)

$P = 3x+1+5x-2+8x$

$P = 16x - 1$ units

Ex. 4: Expand and simplify.

$\frac{2}{3}(3m-2) - \frac{3}{4}(8m-2)$

$= \frac{2}{3}\left(\frac{3m}{1}\right) + \frac{2}{3}\left(\frac{-2}{1}\right) - \frac{3}{4}\left(\frac{8m}{1}\right) - \frac{3}{4}\left(\frac{-2}{1}\right)$

$= \frac{6m}{3} - \frac{4}{3} - \frac{24m}{4} + \frac{6}{4}$

$= 2m - \frac{4}{3} - 6m + \frac{3}{2}$

$= 2m - 6m - \frac{4}{3} + \frac{3}{2}$

$= -4m - \frac{8}{6} + \frac{9}{6}$

$= -4m + \frac{1}{6}$

$\frac{-8}{6} + \frac{9}{6}$

$+ \frac{9}{6} - \frac{8}{6}$

Homework
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all

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