You know

$3(x+3)$

$3(x)+3(3)$

	3
x	3x
3	9

$3x+9$

Today

$-2x^2(3x^2-7x+10)$

$-2x^2(3x^2)-7x(2x^2)+10(2x^2)$

$(-2\cdot x\cdot x\cdot 3\cdot x\cdot x)-(7\cdot x\cdot 2\cdot x\cdot x)+(10\cdot 2\cdot x\cdot x)$

$-6x^4-14x^3+20x^2$

Ex: $4(5x^2+2x-4)$ multiply factor by every term in parentheses

$4(5x^2)+4(2x)+4(-4)$

$20x^2+8x-16$

EX: A parking garage charges \$30 per month plus \$0.50 per daytime hour and \$0.25 per hour during nights and weekends. Suppose Jenna parks in the garage for 47 hours in January and h of those are night and weekend hours. Find an expression for her January bill. Then find the cost if Jenna had 12 hours of night and weekend hours.

$30+0.25h+0.50(47-h)$

$30+0.25h+23.50-0.50h$

$53.50-0.25h$

Ex: $4(3d^2+5d)-d(d^2-7d+12)$

$4(3d^2)+4(5d)-d(d^2)-d(-7d)-d(12)$

$(4\cdot3\cdot d\cdot d)+(4\cdot5\cdot d)-(d\cdot d\cdot d)-(d\cdot -7\cdot d)-(d\cdot 12)$

$12d^2+20d-d^3+7d^2-12d$

$-d^3+19d^2+8d$

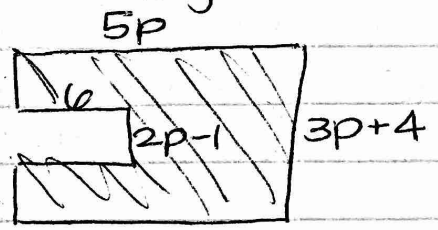
White Board Practice

$3(5x^2+2x-4)-x(7x^2+2x-3)$

$x(3x+4)+2(7x-3)$

$4y^2(y^2-2y+5)+3y(2y^2-2)$

Find the area of the shaded region in simplest form.



$-cd^2(3d+2c^2d-4c)$