

Factoring using the distributive method 2.16.17

Go over HW

If I asked you to multiply $2a(6a + 8)$ You would tell me $12a^2 + 16a$

To factor, we go the opposite way.

Given $12a^2 + 16a$ we want to factor by finding the greatest common factor

Break each part into the prime factorization and find all the alike terms to make the greatest common factor in this case is $4a$.

Then use the rest of the prime factorization to make the equation complete

$4a(3 \cdot a) + 4a(2 \cdot 2)$ Then simplify

$4a(3a) + 4a(4)$ Then use the distributive property

$4a(3a + 4)$

Same method with

$18cd^2 + 12c^2d + 9cd$

$18cd^2 = 2 * 3 * 3 * c * d * d$

$12c^2d = 2 * 2 * 3 * c * c * d$

$9cd = 3 * 3 * c * d$

They all have a $3cd$ in common so we can rewrite the equation with $3cd$ out front and the rest of the factors of that term together.

$3cd(6d) + 3cd(4c) + 3cd(3)$ Then use the reverse distributive property

$3cd(6d + 4c + 3) = 18cd^2 + 12c^2d + 9cd$

You try:

$16x^3 + 20x^2$

$20x^2y + 24x^3y^2 + 28x^4y^3$

HW: PG 484 #23-27