

Name: _____

HW # 27

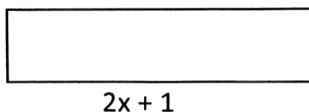
Simplify each expression by using the distributive property.

| | | |
|-------------------------------------|--|---|
| 1.) $4(3x + 2)$ $12x + 8$ | 2.) $-8p(4p + 7)$ $-32p^2 - 56p$ | 3.) $-4m(m + 4)$ $-4m^2 - 16m$ |
| 4.) $6x(7x^2 + 4)$ $42x^3 + 24x$ | 5.) $7x^2(x^2 + 5x - 8)$ $7x^4 + 35x^3 - 56x^2$ | 6.) $8x^2y(5xy + 2)$ $40x^3y^2 + 16x^2y$ |

For each example, write an equivalent expression by factoring out the greatest common factor from each expression. ("Undistribute" the GCF from the expression).

| | | | |
|---|--------------------------------------|---|---|
| 7.) $\frac{5x + 25}{5}$ $5(x + 5)$ | They don't share a letter in common! | 8.) $\frac{12m^2 + 4m}{4m}$ $4m(3m + 1)$ | 9.) $\frac{20x^2 - 4x}{4x}$ $4x(5x - 1)$ |
| 10.) $\frac{5k^3 - 10k^2}{5k^2}$ $5k^2(k - 2)$ | | 11.) $\frac{7m + 28m^2}{7m}$ $7m(1 + 4m)$ | 12.) $\frac{12d^2 - 8d - 4}{4}$ $4(3d^2 - 2d - 1)$ |
| 13.) $\frac{6rs - 3rs^2}{3rs}$ $3rs(2r - s)$ | | 14.) $\frac{14w^2xy - 21wxy}{7wxy}$ $7wxy(2w - 3)$ | 15.) $\frac{xy^2 + xy}{xy}$ $xy(y + 1)$ |

16.) **Geometry Application:** If the area of the rectangle below is $6x + 3$ square units, and you are given the length ' $2x + 1$ ' as your length. What is the width of the rectangle?



$$\underline{3}(2x + 1) = 6x + 3$$

Width must be 3

17.) If a square has a perimeter of $16m + 24$ units, write an expression to represent one side of the square.



$$\frac{16m + 24}{4} = 4m + 6$$

Each side of the square is $4m + 6$ units