
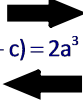


4.3 Common Factoring

To factor:


- to rewrite a number or expression as _____ 
- opposite of _____

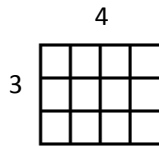
$$2a(a^2 - 3b + c) = 2a^3 - 6ab + 2ac$$


Why factor?

- You can graph a parabola if its equation is in factored form because _____.

Factoring Numbers

$$12 = (3)(4)$$


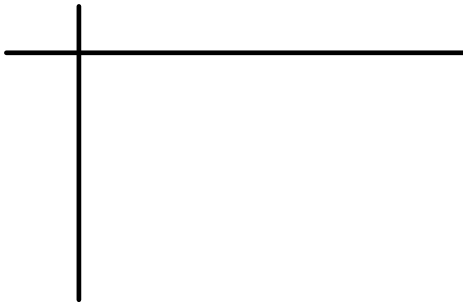


12 represents the _____, 3 is the _____ and 4 is the _____.

Factoring Expressions

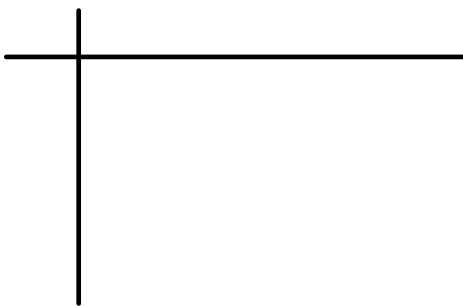
$$x^2 + 4x$$

Make a _____.
The length and width are the _____.



Factor:

a) $x^2 + 3x$



b) $2x^2 - 4x$



Recall: $\frac{x^m}{x^n} =$

To divide monomials, divide the _____ and use _____ to simplify the variables.

Ex. 1 Simplify

a) $\frac{8x^4}{2x^2}$

b) $\frac{6x^2y}{2xy^5}$

c) $\frac{-20a^3bc^5}{4b^2ac^8}$

In order to factor, first find the _____ of your polynomial.

$36x^2y =$

$16xy =$

If a variable is part of the common factor, use its _____.

Ex. 2 Find the GCF of:

a) $6x - 3x^2 + 18$ GCF =

b) $2a^4 + 3a^3 + 4a^2 + a$ GCF =

c) $15b^2 - 30b^3 + 10b^5$ GCF =

d) $14c^7 + 21c^6 - 35c^3$ GCF =

e) $16d^8e^4 - 20e^5d^4 + 8de^6$ GCF =

f) $8x^2yz - 6xy^3 + 10x^3y^2z^4$ GCF =

Common Factoring Algebraically

Once you have found the GCF take it out of the polynomial (factor it) by _____.

Factoring (put brackets _____)

$$x^2 + 4x = x(x+4)$$

Expanding (take brackets _____)

Common factoring is the opposite _____.

∴ You can always check your answer by _____!

Ex. 3: Common Factor

a) $12k - 36m$

b) $9x^2y - 3x^3y^2 - 6x^4y$

c) $6x^2 - 9x - 12$

d) $8x^2y - 24xy + 12y$

e) $4a^2 + 6ab + 12abc$

f) $6x^2y - 4xy - 2y$