Solve Polynomial Equations in Factored Form

PF5

zero-product property: Let a and b be real numbers.

If ab = 0, then a = 0 or b = 0.

Steps:

1) Set the polynomial equation equal to zero.

2) Factor the polynomial (look for the greatest common factor of all the terms & factor it out)

3) Use the zero-product property to set each factor equal to zero.

4) Solve for the variables.

factor out GCF

EX:

$2x^2 + 8x = 0$

$2x(x+4)=0$

$2x=0 \quad x+4=0$

$x=0 \quad x=-4$

$6n^2 = 15n$

$6n^2-15n=0$

$3n(2n-5)=0$

$3n=0 \quad 2n-5=0$

$n=0 \quad n=5/2$