Advanced Algebra

Unit 4 Quadratics Extra Support Material

The Zero Product Property:

I know how to apply the zero product property:

This Property simply says that after you have the function in factored form, you may set each of the factors equal to zero and solve. The reason you are doing this is to find the x intercepts. The x intercepts are where y = 0. This is why you are setting your factors equal to zero.

Solve the following with the zero product property:

1) (x-3) (x+8) = 0

2) (x-6) (x-4) = 0

3) (x+.5) (x-6) = 0

4) 8(x-4) (x+10) = 0

5) 6(x-8) (x+12) = 0

6) 12(x-18)(x+4) = 0

Solve the following with the zero product property. You first must factor the problem if you are going to use the zero product property.

1) $x^2 + 9x + 20$

2) $x^2 - 7x - 18$

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

4) $x^2 - 6x - 5$

5) $x^2 - 2x - 15$

6) $x^2 + 9x - 22$

7) $x^2 + 4x - 12$

8) $x^2 - 23x - 50$

9) $x^2 - 8x - 65$

FOIL- This is a method to multiply out 2 binomials. FOIL stands for first, outer , inner, last. If that method is confusing for you, set up a box to multiply the binomials out.

I can FOIL or use the box method to multiply out 2 Binomials:

1) (x-2) (x+7)

2) (x+1) (x-6)

3) (x-5) (x+10)

4) (x-2) (x+6)

5) (x-1)(x+7)

6) (x+1)(x-10)

7)(x+3) (x-5)

8) (x-2) (x-25)

9) (x-1)(x+5)

10) (x-5y) (x+16y)

11) (x-4y) (x+5y)

12) (x+2y)(x-18y)

13) (x-4y)(x+5y)

14) (x+2y)(x-18y)

15) (x+3y)(x-11y)

Advanced Algebra

Unit 4- Quadratics Support Material Answers

Quadratic formula Problems:

1) 2 and 1

2) 1 and -3

3) -.617 and -2.7

4) 2 and 1.5

5) .5 and -5

6) .6 and -1

7) 5.37 and -.37

8) -1

9) 1.19 and .14

10)-5 and 0

11) -2 and 0

12) 6 and 0

13) 0 and 8

14) 0 and 8

15) 0 and -5

16) 3.32 and -3.32

17) 3 and -3

18)0 and 3.5

19)-.75 and -5.25

20) 6.55 and -4.55

21) 3.375 and 1.625

22)2.75 and -2.42

23) 3.65 and -13.65

24)

Problems with the Zero Product Property:

1) 3 and -8

2) 6 and 4

3) -.5 and 6

4)4 and -10

5) 8 and -12

6) 18 and -4

Problems where you factored first and then used the zero product property:

1) -5 and -4

2) 9 and -2

3)-5 and 2

4)5 and 1

5) 5 and -3

6)-11 and 2

7) -6 and 2

8) 25 and -2

9) 13 and -5

Solutions to the problems you had to use FOIL or the Box method

1) $x^2 + 9x - 14$

2) $x^2 – 5x - 6$

3)$x^2 – 5x - 50$

4)$x^2 + 4x - 12$

5)$x^2 + 6x - 7$

6)$x^2 – 9x - 10$

7)$x_2 - 2x - 15$

8)$x^2 - 27x + 50$

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

10)$x^2 + 11xy – 80y2$

11)$x^2 + 1xy – 20y2$

12)$x^2 – 16xy – 36y2$

13)$x^2 + 1xy – 20y2$

14)$x^2 – 16xy – 36y2$

15)$x^2 - 8xy - 33y2$