Bellwork 10-28-15

Factor the following quadratic expressions.

1. $-x^2 - 6x - 9$

$-1(x^2+6x+9)$

$-1(x+3)(x+3)$

$-1(x+3)^2$

2. $2x^2 + 9x + 4$ (repeated) $\frac{8}{1\cdot 8}$ 9

$(2x^2+1x)+(8x+4)$

$x(2x+1)+4(2x+1)$

$(2x+1)(x+4)$

Nov 4-8:51 AM

5.3 Solving Quadratic Equations by Factoring

Oct 27-2:37 PM

Solve each equation by factoring.

1. $0 = (x+5)(x-1)$

$x+5=0$ $x-1=0$

$x=-5$ $x=1$

2. $0 = (p+2)(3p-1)$

$p+2=0$ $3p-1=0$

$p=-2$ $3p=1$

$p=\frac{1}{3}$

3. $0 = t(3t-8)$

$t=0$ $3t-8=0$

$3t=8$

$t=\frac{8}{3}$

Nov 4-8:44 AM

Find the solutions for each quadratic equation by factoring.

4. $2x^2 - 14x + 12 = 0$ $\frac{6}{-6\cdot -1}$ -7

$2(x^2-7x+6)=0$

$2(x-6)(x-1)=0$

$x-6=0$ $x-1=0$

$x=6$ $x=1$

5. $4b^2 - 12b = 0$

$4b(b-3)=0$

$\frac{4b}{4}=\frac{0}{4}$ $b-3=0$

$b=0$ $b=3$

6. $9x^2 - 16 = 0$

$(3x+4)(3x-4)=0$

$3x+4=0$ $3x-4=0$

$3x=-4$ $3x=4$

$x=-\frac{4}{3}$ $x=\frac{4}{3}$

Nov 4-8:45 AM

Solve the quadratic equations.

7. $7x^2 - 50x = -48$

The equation must = 0 before you can factor!

$+48 \quad +48$

$7x^2-50x+48=0$

$(7x^2-42x)+(8x+48)$

$7x(x-6)-8(x-6)$

$(x-6)(7x-8)=0$

$x-6=0 \quad 7x-8=0$

$x=6 \quad 7x=8 \quad x=\frac{8}{7}$

$336 \quad -50$

$-1\cdot-336$

$-2\cdot-168$

$-3\cdot-112$

$-56\cdot-6$

$-42\cdot-8$

8. $10x^2 = -54x - 56$

$10x^2+54x+56=0$

$2(5x^2+27x+28)=0$

$(5x^2+20x)+(7x+28)$

$5x(x+4)+7(x+4)$

$(x+4)(5x+7)=0$

$x+4=0 \quad 5x+7=0$

$x=-4 \quad 5x=-7 \quad x=-\frac{7}{5}$

$140 \quad 27$

$20\cdot7$

9. $x^2 = 49$

$x^2-49=0$

$(x+7)(x-7)=0$

$x+7=0 \quad x-7=0$

$x=-7 \quad x=7$

Nov 4-8:47 AM

Conclusion

1. Before you can factor, what must the equation equal? zero
2. Once the quadratic expression is factored, what do you do to find the solutions? Set each variable = 0 and solve
3. Questions???

Oct 27-2:40 PM

Assignment

Solve Quadratics by Factoring Wkst

Oct 27-2:46 PM

What do you call a rodent with 4 babies?

Nov 4-8:58 AM

Write a quadratic function in standard form for each given set of zeros.

1. 3 and 4

2. -3 and -2

3. 5 and 0

Follow-up question - Are these answers unique? Why or Why not?

Nov 4-8:48 AM

The height h of an arrow in feet is modeled by $h(t)=-16t^2+63t+4$, where t is the time in seconds since the arrow was shot. How long is the arrow in the air?

Oct 28-8:40 AM

Assignment: pg. 338: 2 - 16 even

Find the zeros of each function by using a graph.
2. $f(x) = x^2+4x-5$ 4. $f(x) = x^2-1$

Find the solutions of each function by factoring.
6. $g(x) = 2x^2-5x+2$ 8. $f(x) = x^2+9x+20$ 10. $h(x) = 3x^2+13x+4$

Find the roots of each equation by factoring.
12. $x^2-6x = -9$ 14. $x^2 = 49$

Write a quadratic function in standard form for each given set of zeros.
16. -4 and -4

Oct 28-8:42 AM

Oct 23-9:26 AM