Today's Plan:

Learning Target (standard): I will write a quadratic equation given its roots.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, take notes over new material and complete practice problems over new concepts.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over new concepts.

Assessment: Board work, homework check and homework assignment

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in lecture over new concepts, practice new concepts with the aid of other students and the teacher and complete homework assignment.

Jan 11-1:27 PM

Solve using the quadratic formula.

$2x^2+9x+5=0$

$a=2$ $b=9$ $c=5$

$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

$=\frac{-9\pm\sqrt{81-4(2)(5)}}{2(2)}=\frac{-9\pm\sqrt{81-40}}{4}$

$=\frac{-9\pm\sqrt{41}}{4}$

$x=\frac{-9+\sqrt{41}}{4},\ \frac{-9-\sqrt{41}}{4}$

Jan 13-2:11 PM

Solve by factoring.

$4x^2+8x=5$

$4x^2+8x-5=0$

20: $10-2=8$

$4x^2+10x-2x-5=0$

$2x(2x+5)-1(2x+5)=0$

$(2x+5)(2x-1)=0$

$x=-\frac{5}{2},\frac{1}{2}$

Jan 13-2:11 PM

Solve by completing the square.

$x^2+6x+10=0$

$\frac{6}{2}=3^2=9$

$x^2+6x+9=-10+9$

$(x+3)^2=-1$

$x+3=i,-i$

$x=-3+i,-3-i$

Jan 13-2:11 PM

Find the quadratic equation with the given roots.

$x=-\frac{2}{3},4$

$x=-\frac{2}{3}$ $x=4$

$3x=-2$ $x-4=0$

$3x+2=0$ $(3x+2)(x-4)=0$

$3x^2-12x+2x-8=0$

$3x^2-10x-8=0$

Jul 1-11:30 AM

Find the quadratic equation with the given roots.

$x=\frac{4}{3},-\frac{2}{5}$

$x=\frac{4}{3}$ $x=-\frac{2}{5}$

$3x=4$ $5x=-2$

$3x-4=0$ $5x+2=0$

$(3x-4)(5x+2)=0$

$15x^2+6x-20x-8=0$

$15x^2-14x-8=0$

Jul 1-11:30 AM

Find the quadratic equation with the given roots.

$x = -\sqrt{3}, \sqrt{3}$

$a[x^2-(r_1+r_2)x+r_1\cdot r_2]=0$

$a[x^2-(-\sqrt{3}+\sqrt{3})x+(-\sqrt{3})(\sqrt{3})]=0$

$a[x^2-3]=0$

$x^2-3=0$

Jul 1-11:30 AM

Find the quadratic equation with the given roots.

$x = \frac{2+\sqrt{5}}{3}, \frac{2-\sqrt{5}}{3}$

$a[x^2-(r_1+r_2)x+r_1\cdot r_2]=0$

$a[x^2-(\frac{2+\sqrt{5}}{3}+\frac{2-\sqrt{5}}{3})x+(\frac{2+\sqrt{5}}{3})(\frac{2-\sqrt{5}}{3})]=0$

$a[x^2-\frac{4}{3}x+\frac{4-5}{9}]=0$

$a(x^2-\frac{4}{3}x-\frac{1}{9})=0$

$9(x^2-\frac{4}{3}x-\frac{1}{9})=0$

$9x^2-12x-1=0$

Jan 12-10:20 AM

Find the quadratic equation with the given roots.

$x = \frac{2}{5}+\frac{1}{5}i, \frac{2}{5}-\frac{1}{5}i$

$a[x^2-(r_1+r_2)x+r_1\cdot r_2]=0$

$a[x^2-(\frac{2}{5}+\frac{1}{5}i+\frac{2}{5}-\frac{1}{5}i)x+(\frac{2}{5}+\frac{1}{5}i)(\frac{2}{5}-\frac{1}{5}i)]=0$

$a[x^2-\frac{4}{5}x+(\frac{4}{25}-\frac{1}{25}i^2)]=0$ $\quad i^2=-1$

$a[x^2-\frac{4}{5}x+(\frac{4}{25}+\frac{1}{25})]=0$

$a[x^2-\frac{4}{5}x+\frac{1}{5}]=0$

$5(x^2-\frac{4}{5}x+\frac{1}{5})=0$

$5x^2-4x+1=0$

Jan 12-10:24 AM

Find the quadratic equation with the given roots.

$x = \frac{1}{3}+\frac{\sqrt{5}}{3}i, \frac{1}{3}-\frac{\sqrt{5}}{3}i$

$a[x^2-(r_1+r_2)x+r_1\cdot r_2]=0$

$a[x^2-(\frac{1}{3}+\frac{\sqrt{5}}{3}i+\frac{1}{3}-\frac{\sqrt{5}}{3}i)x+(\frac{1}{3}+\frac{\sqrt{5}}{3}i)(\frac{1}{3}-\frac{\sqrt{5}}{3}i)]=0$

$a[x^2-\frac{2}{3}x+(\frac{1}{9}-\frac{5}{9}i^2)]=0$ $\quad i^2=-1$

$a[x^2-\frac{2}{3}x+(\frac{1}{9}+\frac{5}{9})]=0$

$a[x^2-\frac{2}{3}x+\frac{2}{3}]=0$

$3(x^2-\frac{2}{3}x+\frac{2}{3})=0$

$3x^2-2x+2=0$

Jan 12-10:30 AM

Assignment:

Wkst 342 #8-24 even

* Write the problem & the formula & show ALL steps *

Feb 14-7:01 AM