SLO Pre-Test Quadratics

10 points participation for taking

Dec 2-8:49 AM

Calendar Math

Complex numbers:
imaginary solutions
it will have an i

Standard form:

$\sqrt{-1} = i$

$(\sqrt{-1})^2 = i^2$

$-1 = i^2$

Dec 2-8:37 AM

Add: $(3+2i)+(5-4i)$

$8-2i$

Combine like terms

Subtract: $(7-5i)-(-2+6i)$

$7-5i+2-6i$

Dec 2-12:08 PM

Homework 5.1

(30) $1r \cdot 2r^{-2}$

$r^1 \cdot r^{-2}$

r^{1+-2}

$2r^{-1}$

$\frac{2}{r}$

Dec 2-12:11 PM

$2\sqrt{10}$

$-4\sqrt{6}$ $-5\sqrt{2}$

$-8\sqrt{60}$ $-10\sqrt{20}$

$-8\sqrt{60} - 10\sqrt{20}$

$60 = 6 \cdot 10 = 3 \cdot 2 \cdot 2 \cdot 5$

$20 = 2 \cdot 10 = 2 \cdot 2 \cdot 5$

$-16\sqrt{15} - 20\sqrt{5}$

Dec 2-12:14 PM

5.3/5.4 Discriminants and the Quadratic Formula

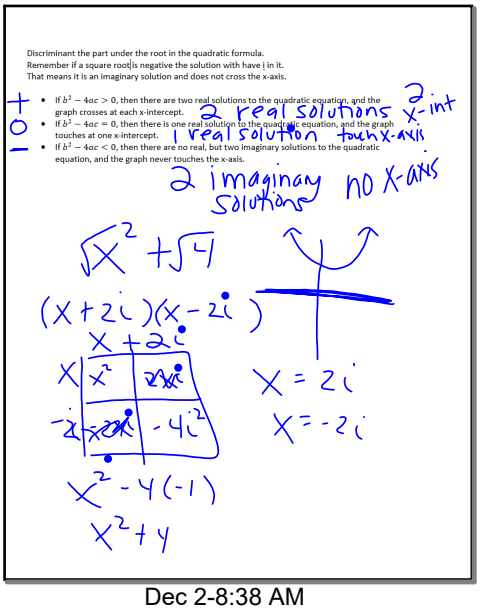
The **quadratic formula**, $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$, can be used to find the solutions of the quadratic equation $ax^2 + bx + c = 0$, when $a \neq 0$, it is most useful when a function is not factorable. The radicand of the quadratic formula, $b^2 - 4ac$, is called the **discriminant**. It can be used to determine the number and type of solutions to the quadratic equation $ax^2 + bx + c = 0$.

Discriminant

$b^2 - 4ac$

$a =$ $b =$ $c =$

Dec 2-8:37 AM



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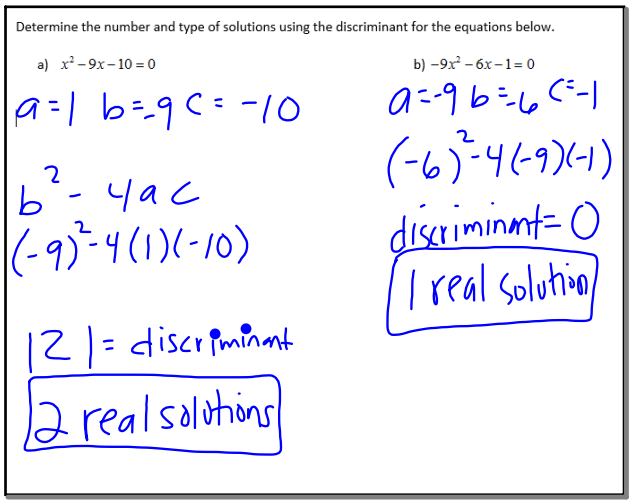


Dec 2-8:40 AM

The Quadratic Formula Song

Sing to the tune of "pop goes the weasel"

First you take a negative b, plus or minus square root, of b squared minus 4ac, all over 2a.

Dec 2-8:50 AM

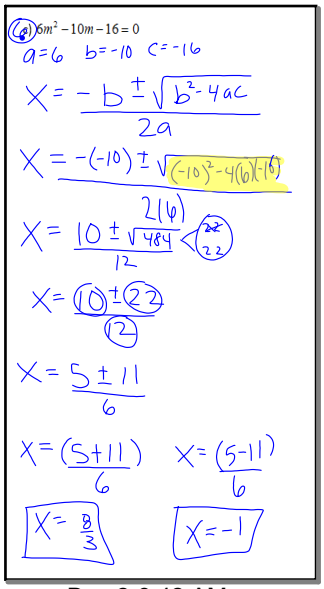
Quadratic Formula:

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

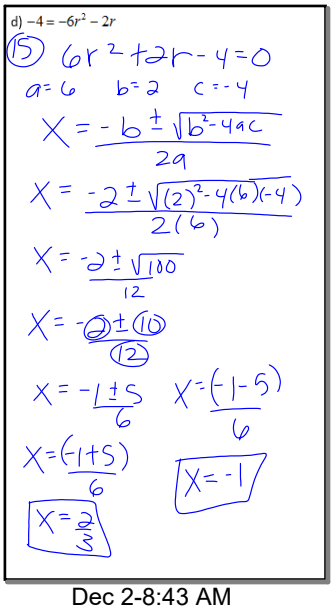
Dec 2-8:51 AM

Step 1: Set one side of the equation equal to zero.
Step 2: Write down a, b, c
Step 3: Plug into the formula. Simplify the root if possible. Reduce if all three numbers will divide evenly by the same number.
Step 4: Write your answer as two separate answers.

Dec 2-8:51 AM



Dec 2-8:42 AM


d) $-4 = -6r^2 - 2r$
(15) $6r^2 + 2r - 4 = 0$
$a = 6 \quad b = 2 \quad c = -4$
$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
$X = \frac{-2 \pm \sqrt{(2)^2 - 4(6)(-4)}}{2(6)}$
$X = \frac{-2 \pm \sqrt{100}}{12}$
$X = \frac{-2 \pm 10}{12}$
$X = \frac{-1 \pm 5}{6}$
$X = \frac{(-1+5)}{6}$
$X = \frac{2}{3}$
$X = \frac{(-1-5)}{6}$
$X = -1$

Dec 2-8:43 AM