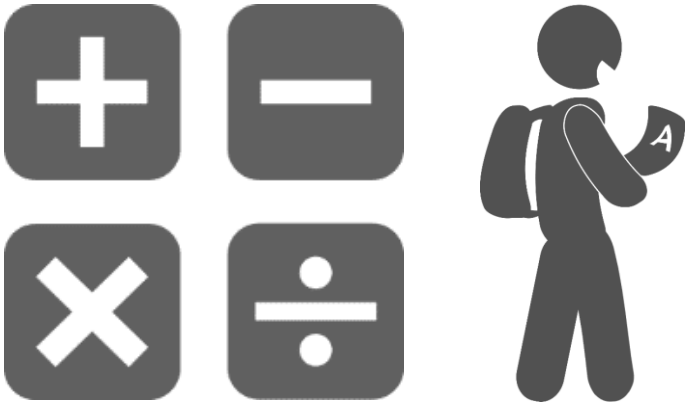

Mastery Worksheets	MAT 1033

Test 5

- ☐ Radical Equations
- ☐ Square Root Property and the Definition of i
- ☐ Completing the Square
- ☐ Quadratic Formula

Mastery Worksheet	MAT 1033

MY NAME IS:

Radical Equations

Test 4 Worksheet 20	Practice Session #		Date:	/ /

Steps for solving a radical equation:

Step 1 Isolate the radical (i.e. get one radical alone on one side of the equation).

Step 2 Raise both sides of the equation to a power equal to the index on the radical.

Step 3 Solve the resulting equation. If the equation still has a radical, repeat steps 1 and 2.

Step 4 CHECK all possible solutions in the original equation

Let's get to work…

Solve the radical equation with one radical and check your answer.

1 $\sqrt{x}+4=10$ CHECK:

2 $\sqrt{x}-4=-10$ CHECK:

3 $\sqrt[3]{x^2+11}=3$ CHECK:

4 $\sqrt{3x+1}-x=-3$

CHECK:

Solve a radical equation with two radicals.

5 $\sqrt{x+8}=\sqrt{3x}$

CHECK:

6 $\sqrt{x-6}=\sqrt{x+2}-4$

CHECK:

How do I feel?

☐ Awesome! I Aced it! | Easy | Medium | Hard | ☐ I need help with…

Mastery Worksheet | **MAT 1033**

MY NAME IS:

Square Root Property and the Definition of *i*

Test 4 Worksheet 21	Practice Session #		Date:	/ /

Square Root Property: For any real number, k, if $x^2 = k$, then $x = \sqrt{k}$ or $x = -\sqrt{k}$.

The solution may also be written as $\pm\sqrt{k}$, reads "plus or minus the square root of k."

Definition of i: $i = \sqrt{-1}$ From the definition of i, it follows that $i^2 = -1$

Let's get to work…

Solve the quadratic equations by using the square root property.

1 $x^2 = 25$

2 $k^2 = 11$

3 $16v^2 = 81$

4 $-9n^2 = 81$

5 $(3x-2)^2 - 5 = 0$

6 $(t+7)^2 = -14$

How do I feel?

☐ Awesome! I Aced it! | Easy | Medium | Hard

☐ I need help with…

Mastery Worksheet | **MAT 1033**

MY NAME IS:

Completing the Square

Test 4 Worksheet 22	Practice Session #		Date:	/ /

Solve $ax^2 + bx + c = 0$ by Completing the Square

Completing the square:

1. The Leading coefficient on x^2 must be 1.
2. Move Variables to the left, constant to the right.
3. Take half the coefficient of the x term, square it, and add it to both sides.
4. Rewrite the polynomial on the left as $(\quad)^2$.
5. Solve using the square root property.

Let's get to work…

Find the value of a such that the expression is a perfect square trinomial. Factor the trinomial.

1 $x^2 - 8x + a$

2 $x^2 + 7x + a$

Solve by completing the square.

3 $x^2 - 6x + 1 = 0$

4 $x^2 + 2x + 2 = 0$

5 $x^2 + 16x - 3 = 0$

How do I feel?

☐ Awesome! I Aced it! | Easy | Medium | Hard | ☐ I need help with…

Mastery Worksheet	MAT 1033

MY NAME IS:

Quadratic Formula

Test 4 Worksheet 23	Practice Session #		Date:	/ /

If $ax^2+bx+c=0$ ($a \neq 0$) then $x=\dfrac{-b\pm\sqrt{b^2-4ac}}{2a}$

Let's get to work…

Solve by using the quadratic formula.

1 $3x^2+2x-8=0$

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

3 $x^2-10x+29=0$

How do I feel?

☐ Awesome! I Aced it!

Easy | Medium | Hard

☐ I need help with…