Warm Up- Journal #13

Simplify:

① $\sqrt{100}$ 10

② $\sqrt{-36}$ $6i$

③ $\sqrt{72}$ $6\sqrt{2}$

④ $\sqrt{-8}$ $2i\sqrt{2}$

Solving Quadratic Equations by USING SQUARE ROOTS

1. Isolate the variable on one side of the equation
2. Square Root both sides
3. Simplify imaginary numbers and use ±

Ex $x^2 = 16$ $\sqrt{x^2} = \sqrt{16}$ $x = \pm 4$	$x^2 = -49$ $\sqrt{x^2} = \sqrt{-49}$ $x = \pm 7i$	$7x^2 = -28$ $\frac{7}{7}$ $\sqrt{x^2} = \sqrt{-4}$ $x = \pm 2i$	$-6x^2 = 216$ $\frac{-6}{-6}$ $\sqrt{x^2} = \sqrt{36}$ $x = \pm 6i$
$-2x^2 = -96$ $\frac{-2}{-2}$ $\sqrt{x^2} = \sqrt{48}$ $x = \pm 4\sqrt{3}$	$5x^2 = -375$ $\frac{5}{5}$ $\sqrt{x^2} = \sqrt{-75}$ $x = \pm 5i\sqrt{3}$	$5x^2 + 2 = 407$ $-2 \quad -2$ $\frac{5x^2}{5} = \frac{405}{5}$ $\sqrt{x^2} = \sqrt{81}$ $x = \pm 9$	$5x^2 + 2 = -18$ $-2 \quad -2$ $\frac{5x^2}{5} = \frac{-20}{5}$ $\sqrt{x^2} = \sqrt{-4}$ $x = \pm 2i$

$7x^2 - 8 = 370$	$3x^2 + 6 = -18$	$64x^2 + 2 = 38$	$-5x^2 - 4 = 96$
$+8 \quad +8$ $7x^2 = 378$ $\frac{7}{7} \quad \frac{7}{7}$ $\sqrt{x^2} = \sqrt{54}$ $x = \pm 3\sqrt{6}$	$-6 \quad -6$ $3x^2 = -24$ $\sqrt{x^2} = \sqrt{-8}$ $x = \pm 2i\sqrt{2}$	$-2 \quad -2$ $\frac{64}{64}x^2 = \frac{36}{64}$ $\sqrt{x^2} = \sqrt{\frac{36}{64}}$ $x = \pm \frac{6}{8}$ $x = \pm \frac{3}{4}$	$+4 \quad +4$ $\frac{-5}{-5}x^2 = \frac{100}{-5}$ $\sqrt{x^2} = \sqrt{-20}$ $x = \pm 2i\sqrt{5}$

Classwork: 11-20 all

When finished with classwork, write your 1-2 sentences on what we did today.