

Q1P4 Ch. 6-6 -6-7 - Quad "Form" & Quad/Rat. Ineq. Date _____ Period _____

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Solve by using a transformation of variables to put in quadratic form. Use "u" for the transformed variable.

1) Ex. 1 Pg. 290.

$$x^4 + 4x^2 - 12 = 0$$

2) Ex. 2 Pg. 290.

$$y + 3\sqrt{y} - 4 = 0$$

3) Ex. 3 Pg. 291.

$$3x^{-2} + 7x^{-1} - 6 = 0$$

4) No. 1 Pg. 292.

$$x^4 - 6x^2 + 5 = 0$$

5) No. 5 Pg. 292.

$$(x - 2)^4 + 9(x - 2)^2 + 8 = 0$$

6) Ex. Pg. 292.

$$5z^{-2} + 6z^{-1} - 8 = 0$$

Solve the QUADRATIC inequality. Use 6 - step method on Page 294.

7) Ex. 1 Pg 295

$$x^2 - x - 6 \leq 0$$

8) Ex. 2 Pg 295

$$3x^2 - 4x - 4 > 0$$

Solve the RATIONAL inequality. Use the 5 - step method on Page 297. You MUST explicitly exclude any values of the variable that make the denominator zero.

9) Ex. 3 Pg 296.

$$z/(z-5) \geq 3$$

10) Ex. Pg 299.

$$x/(x+3) \leq 2$$

Answers to Q1P4 Ch. 6-6 -6-7 - Quad "Form" & Quad/Rat. Ineq. (ID: 1)

- 1) $x = i\sqrt{6}, -i\sqrt{6}, \sqrt{2}, -\sqrt{2}$ 2) $y = 1$ 3) $x = 3/2, -1/3$
4) $x = -\sqrt{5}, \sqrt{5}, -1, 1$ 5) $x = 2-2i\sqrt{2}, 2+2i\sqrt{2}, 2-i, 2+i$ 6) $z = -1/2, 5/4$.
7) $-2 < x \leq 3$ 8) $x < -2/3$ OR $x > 2$ 9) $5 < z \leq \frac{15}{2}$ 10) $x \leq -6$ OR $x > -3$