

3.2 - Day 2 - Solving Radical Equations

Extraneous Solutions: any solution to an equation that does not make the original statement true.

Ex. Solve. Check your results.

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

$$\sqrt{5x-1}^2 = (x-3)^2$$

$$5x-1 = x^2 - 6x + 9$$

$$0 = x^2 - 11x + 10$$

$$0 = (x-10)(x-1)$$

$x=10$ ✓ and ~~$x=1$~~

Ex. Solve. Check your results.

$$(x-5)^2 = (\sqrt{-10x+29})^2$$

$$x^2 - 10x + 25 = -10x + 29$$

$$x^2 - 4 = 0$$

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

~~$x = -2$~~ ~~$x = 2$~~

No real solution

Problem 5 Solving an Equation With Two Radicals

What is the solution of $\sqrt{2x+1} - \sqrt{x} = 1$

$$(\sqrt{2x+1})^2 = (\sqrt{x} + 1)^2$$

$$2x+1 = x+2\sqrt{x}+1$$

$$(x)^2 = (2\sqrt{x})^2$$

$$x^2 = 4x$$

$$x^2 - 4x = 0 \quad \text{GCF}$$

$$x(x-4) = 0$$

$$x=0$$

$$x=4$$

- ~~26. 6~~
- 27. 1
- ~~28. 2~~
- 29. 3
- ~~30. 1, 1~~
- 31. -3, -4
- ~~32. 5~~
- 33. 1
- ~~34. 2~~

- 35. 3
- ~~36. 5~~
- 37. 1
- ~~38. 5~~
- 39. -2
- ~~40. 5~~
- 41. 1

- 49. 8
- ~~50. 1~~
- 51. 5
- ~~52. 25~~
- 53. 1
- ~~54. 0.5~~
- 55. 9, -7

HW 3.2 Day 2:

p.395

#'s 27 - 41 odds

49 - 55 odds