Trig 4.7

Solve radical equations =
Solve radical inequalities < >

extraneous solutions

real solutions
= hint: can √( ) ever be √neg
negative?

whiteboards

$\sqrt{0} = 0$

24. $\sqrt[4]{3t} - 2 = 0$

$\left(\sqrt[4]{3t}\right)^4 = 2^4$

$\frac{3t}{3} = \frac{16}{3}$

$\sqrt[4]{3 \cdot \frac{16}{3}} - 2 = 0$

$\sqrt[4]{16} - 2 = 0$

$2 - 2 = 0$ ☺

Good decision making:

7. $\sqrt{6x-4} = \sqrt{2x+10}$

$6x-4=2x+10$

$7-\sqrt{a-3}$

$7-\sqrt{a-3}$

$49 - 7\sqrt{a-3} - 7\sqrt{a-3} + a - 3$

8. $\sqrt{a+4} + \sqrt{a-3} = 7$

$-\sqrt{a-3} \quad -\sqrt{a-3}$

$\sqrt{a+4}^2 = (7-\sqrt{a-3})^2$

$a+4 = 46 + a - 14\sqrt{a-3}$

$\frac{-42}{-14} = \frac{-14\sqrt{a-3}}{-14}$

$3^2 = \sqrt{a-3}^2$

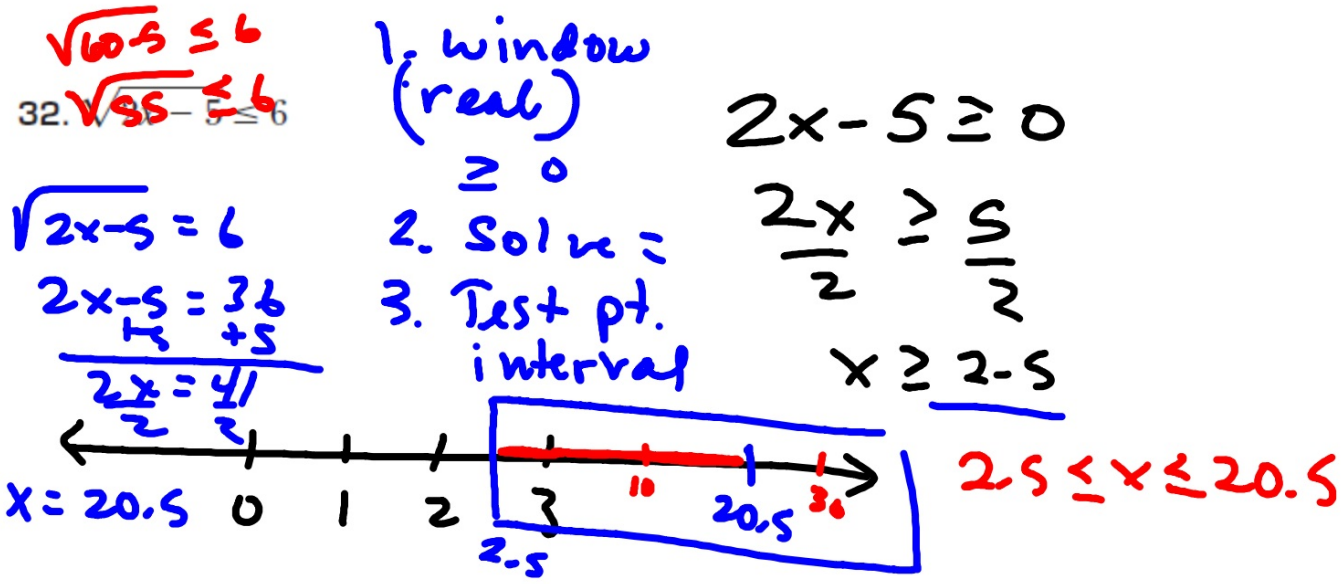
$9 = a-3$

$+3 \quad +3$

$12 = a$

of √ = number of rounds...

Always check solutions at end, extraneous solutions bec ( )²



Check up front, what is needed for √ to be REAL?
(This is your window.)

$\sqrt{-1,1+2} \leq \sqrt{-3,3+4}$

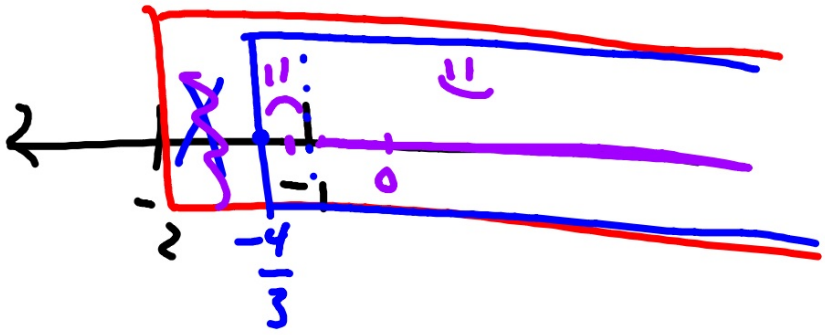
34. $\sqrt{m+2} \leq \sqrt{3m+4}$

$0.1 \leq .83$

$x \geq -1$

$\sqrt{2} \leq \sqrt{4}$

$1.4 \leq 2$



Solve each inequality.

9. $\sqrt{5x + 4} \leq 8$

10. $3 + \sqrt{4a - 5} \leq 10$

4.7 WB

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