

Trig 4.7

Solve radical equations

Solve radical inequalities

extraneous solutions D Q

real solutions

hint: can $\sqrt{(\)}$ ever be
negative?

$$x > 3$$

whiteboards

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

Good decision making:

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

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

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

of $\sqrt{}$ = number of rounds...

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

32. $\sqrt{2x-5} \leq 6$

$$(\sqrt{2x-5})^2 \leq (6)^2$$

$$2x-5 \leq 36$$

$$\frac{2x}{2} \leq \frac{41}{2}$$

$$2x-5 \geq 0$$

$$\frac{2x}{2} \geq \frac{5}{2}$$

$$x \geq 2.5$$

$$x \leq 20.5$$

$$2.5 \leq x \leq 20.5$$

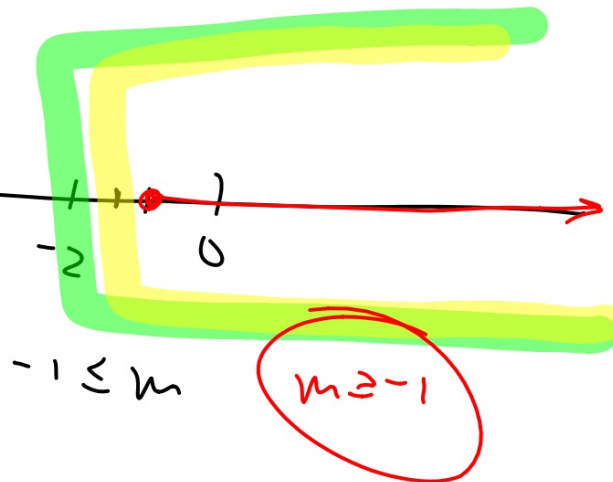
Check up front, what is needed for $\sqrt{\quad}$ to be REAL?
(This is your window.)

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

$$\begin{array}{l} m+2 \geq 0 \\ \quad \quad \quad -2 \quad -2 \\ m \geq -2 \end{array} \quad \begin{array}{l} 3m+4 \geq 0 \\ 3m \geq -4 \\ m \geq -\frac{4}{3} \end{array}$$

$$(\sqrt{m+2})^2 \leq (\sqrt{3m+4})^2$$

$$\begin{array}{r} m+2 \leq 3m+4 \\ -m-4 \quad -m-4 \\ \hline -2 \leq 2m \end{array}$$



Solve each inequality.

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

$$4a-5 \geq 0$$

$$4a \geq 5$$

$$a \geq \frac{5}{4}$$

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

$$a \leq 13.5$$

$$4a-5 \leq 49$$

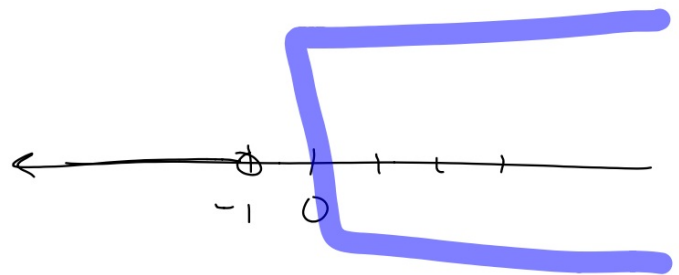
$$4a \leq 54$$



$$\frac{1}{4} \leq a \leq 13.5$$

4.7 WB odds
+10,12

$$\sqrt{r+1} - 3 \leq \sqrt{4-r}$$



$$x < -1$$

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