

HW: Red text p. 548 & 549

$$13.) (\sqrt{x+1})^2 = (3)^2$$

$$x+1 = 9$$

$$\begin{array}{r} -1 \quad -1 \\ \hline \end{array}$$

$$x = 8$$

$$22.) \sqrt{5m-5} + 6 = 7$$

$$\begin{array}{r} -6 \quad -6 \\ \hline \end{array}$$

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

$$5m-5 = 1$$

$$\begin{array}{r} +5 \quad +5 \\ \hline \end{array}$$

$$5m = 6$$

$$m = \frac{6}{5}$$

$$* 14.) \frac{5}{2} = \frac{1}{2} \sqrt{3x}$$

$$\left(\frac{5}{2}\right)^2 = (\sqrt{3x})^2$$

Cross multiply $\frac{25}{4} = \frac{3x}{1}$

$$3x(4) = 25$$

$$12x = 25$$

$$\begin{array}{r} 12 \quad 12 \\ \hline \end{array}$$

$$x = \frac{25}{12}$$

$$28.) (\sqrt{2n-4})^2 = (2)^2$$

$$2n-4 = 4$$

$$\begin{array}{r} +4 \quad +4 \\ \hline \end{array}$$

$$2n = 8$$

$$n = 4$$

$$19.) 4 = \sqrt{8a} + 3$$

$$\begin{array}{r} -3 \quad -3 \\ \hline \end{array}$$

$$(1)^2 = (\sqrt{8a})^2$$

$$1 = 8a$$

$$\begin{array}{r} 8 \quad 8 \\ \hline \end{array}$$

$$\frac{1}{8} = a$$

$$* 31.) (15\sqrt{2})^2 = (5\sqrt{t})^2$$

$$(15\sqrt{2})(15\sqrt{2}) = (5\sqrt{t})(5\sqrt{t})$$

$$225 \cdot 2 = 25t$$

$$450 = 25t$$

$$\begin{array}{r} 25 \quad 25 \\ \hline \end{array}$$

$$18 = t$$

$$** (15\sqrt{2})^2 \Rightarrow 15^2 \cdot 2 = 450$$

$$34.) (\sqrt{2m^2 - 10})^2 = (4)^2$$

$$2m^2 - 10 = 16$$

$$\begin{array}{r} +10 \quad +10 \\ \hline \end{array}$$

$$2m^2 = 26$$

$$\sqrt{m^2} = \sqrt{13}$$

$$m = \pm \sqrt{13} \quad \text{2 solutions}$$

* works for both

$$37.) (\sqrt{5b^2 - 36})^2 = (2b)^2$$

$$5b^2 - 36 = (2b)(2b)$$

$$5b^2 - 36 = 4b^2$$

$$\begin{array}{r} -5b^2 \quad -5b^2 \\ \hline \end{array}$$

$$-36 = -b^2$$

$$\sqrt{36} = \sqrt{b^2}$$

$$\pm 6 = b$$

$$b = 6$$

1 solution
only works for 6.

$$25.) 8 = \sqrt{\frac{5a}{4}} + 2$$

$$\begin{array}{r} +2 \quad \quad \quad +2 \\ \hline \end{array}$$

$$(10)^2 = \left(\sqrt{\frac{5a}{4}}\right)^2$$

$$\frac{100 - 5a}{4}$$

$$5a = 4(100)$$

$$5a = 400$$

$$\frac{5a}{5} = \frac{400}{5}$$

$$a = 80$$