Solve: $(\sqrt{m}+1)^2=(\sqrt{m+9})^2$

$(\sqrt{m}+1)(\sqrt{m}+1)$

$m+2\sqrt{m}+1$

$m+2\sqrt{m}+1 = m+9$

$-m \quad -1 \quad -m \quad -1$

$\frac{2\sqrt{m}}{2} = \frac{8}{2}$

$(\sqrt{m})^2=(4)^2$

$m=16$

Solve: $(3-\sqrt{x})^2 = (\sqrt{x-3.})^2$

$9 - 2\sqrt{x} + x = x - 3$

$-9 \quad -x \quad -x \quad -9$

$\frac{-2\sqrt{x}}{-2} = \frac{-12}{-2}$

$(\sqrt{x})^2 = (6)^2$

~~$x = 36$~~ No solution

$3 - \sqrt{36} = \sqrt{36-3}$

$3 - 6 = \sqrt{33}$

$-3 = \sqrt{33}$

Solve: $(\sqrt{x}+2)^2=(\sqrt{x+16})^2$

$x+4\sqrt{x}+4=x+16$

$4\sqrt{x}=12$

$\sqrt{x}=3$

$x=9$

$(\sqrt{x}+2)(\sqrt{x}+2)$

$x+2\sqrt{x}+2\sqrt{x}+4$

$x+4\sqrt{x}+4$

Solve: $\left(\sqrt{q-2}+3\right)^2=\left(\sqrt{4q+1}.\right)^2$

$(\sqrt{q-2}+3)(\sqrt{q-2}+3)$

$q-2+3\sqrt{q-2}+3\sqrt{q-2}+9$

$q+6\sqrt{q-2}+7$

$q+6\sqrt{q-2}+7=4q+1$

$-q \quad -7 \quad -q \quad -7$

$\frac{6\sqrt{q-2}}{6}=\frac{3q}{6}-\frac{6}{6}$

$\left(\sqrt{q-2}\right)^2=\left(\frac{1}{2}q-1\right)^2$

$q-2=\frac{1}{4}q^2-q+1$

$-q-2 \quad -q+2$

$0=\frac{1}{4}q^2-2q+3$

$0=q^2-8q+12$

$(q-6)(q-2)=0$

$q=6 \quad q=2$

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

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

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

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

$$-x \quad +1 \qquad\qquad +1 \quad -x$$

$$2 = 2\sqrt{x-2}$$

$$(1)^2 = \left(\sqrt{x-2}\right)^2$$

$$1 = x - 2$$

$$x = 3$$

$$\sqrt{x+5} - \sqrt{x-3} = 2$$

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

$$x+5 = 4 + 4\sqrt{x-3} + x - 3$$

$$x+5 = x + 4\sqrt{x-3} \quad +1$$

$$-x \quad\quad -x \quad\quad -1$$

$$4 = 4\sqrt{x-3}$$

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

$$1 = x-3$$

$$x = 4$$

8.6

325 327 329

333 337 339

8.4 mix Review

217-239 odd