

$$\#1 \quad (x-2)^{1/3} = 5$$

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

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

$$x-2 = 125$$

$$\boxed{x = 127}$$

CHECK: $127-2 \geq 0$ TRUE

#4

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

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

$$x+1 = x^2-2x+1$$

$$x^2-3x = 0$$

$$x(x-3) = 0$$

$$\boxed{x=0 \text{ or } x=3}$$

CHECK $0+1 \geq 0$ TRUE

$3+1 \geq 0$ TRUE

#7

$$\left(\sqrt{x+7}\right)^2 = (x-5)^2$$

$$x+7 = x^2-10x+25$$

$$x^2-11x+18 = 0$$

$$(x-2)(x-9) = 0$$

$$\boxed{x=2 \text{ or } x=9}$$

CHECK: $2+7 \geq 0$ TRUE

$9+7 \geq 0$ TRUE

#10

$$\left(\sqrt{2x-5}\right)^2 = (7)^2$$

$$2x-5 = 49$$

$$2x = 54$$

$$\boxed{x = 27}$$

$2 \cdot 27 - 5 \geq 0$ TRUE

$$\#19 \quad \sqrt{7x-6} - \sqrt{5x+2} = 0$$

$$\left(\sqrt{7x-6}\right)^2 = \left(\sqrt{5x+2}\right)^2$$

$$7x-6 = 5x+2$$

$$2x = 8$$

$$\boxed{x = 4}$$

CHECK $7 \cdot 4 - 6 \geq 0$ TRUE

$5 \cdot 4 + 2 \geq 0$ TRUE

$$\#22 \quad 2x^{4/3} - 2 = 160$$

$$2\left(^3\sqrt{x}\right)^4 = 162$$

$$\left(^3\sqrt{x}\right)^4 = 81$$

$$^3\sqrt{x} = 3 \text{ or } ^3\sqrt{x} = -3$$

$$\boxed{x = 27 \text{ or } x = -27}$$

no check needed! why?

#25

$$\sqrt{2x+1} = -5$$

can't be!

$\boxed{\text{no solution!}}$

#28

$$(2x+1)^{1/3} = 1$$

$$2x+1 = 1^3$$

$$2x = 0$$

$$\boxed{x = 0}$$