Solve. $(x+6)^{\frac{1}{2}} - 7 = 3$

$+7 \quad +7$

$((x+6)^{1/2})^2 = (10)^2$

$(\sqrt{x+6})^2 = (10)^2$

$x+6 = 100$

$x = 94$

Solve: 1

$5\sqrt{x+6} - x = 4x$

$+x \quad +x$

$\frac{5\sqrt{x+6}}{5} = \frac{5x}{5}$

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

$x+6 = x^2$

$0 = x^2 - x - 6$

$0 = (x-3)(x+2)$

$x = \cancel{-2}, 3$

$x = 3$

Solve: 2

$\sqrt{6x-11} + 1 = x$

$-1 \quad -1$

$(\sqrt{6x-11})^2 = (x-1)^2$

$6x - 11 = x^2 - 2x + 1$

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

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

$x = 2, 6$

Solve 0

$\sqrt{-3x-8} = x+2$

$1 \neq -1$

$-3x - 8 = x^2 + 4x + 4$

$0 = x^2 + 7x + 12$

$0 = (x+3)(x+4)$

$x = \cancel{-3}, \cancel{-4}$

NO SOL

Solve:

$$\left(\sqrt{x^2-8}\right)^2=\left(\sqrt{-2x}\right)^2$$

$x^2-8=-2x$

$x^2+2x-8=0$

$(x+4)(x-2)=0$

$x=\cancel{2},-4$

$x=-4$

Solve.

$$\left(\sqrt[3]{x^2-7}\right)^3=\left(\sqrt[3]{x-1}\right)^3$$

$x^2-7=x-1$

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

$x^2-x-6=0$

$(x-3)(x+2)=0$

Solution is: $-2, 3$

$x=-2,3$

Solve:

$$\left((3x-10)^{\frac{1}{2}}\right)^2=\left((x+7)^{\frac{1}{2}}\right)^2$$

$3x-10=x+7$

$-x \quad -x$

$2x-10=7$

$+10 \quad +10$

$2x=17$

$x=\frac{17}{2}$

Solve:

$$(x+6)^{\frac{1}{2}}-(x+8)^{\frac{1}{4}}=0$$

$$\left((x+6)^{1/2}\right)^4=\left((x+8)^{1/4}\right)^4$$

$(x+6)^2=x+8$

$x^2+12x+36=x+8$

$x^2+11x+28=0$

$(x+4)(x+7)=0$

$x=\checkmark -4, \cancel{-7}$

$x=-4$

Solve this equation.

$$(x-5)^{\frac{3}{4}} - 6 = 2$$

$$\left[(x-5)^{3/4}\right]^{4/3} = 8^{4/3}$$

$$x - 5 = 16$$

$$\boxed{x = 21}$$

You can now finish Hwk #18

Sec 7-5

Pages 394-395

Problems 6, 7, 9, 17, 18, 21-23, 54

Due tomorrow