# Algebra 2 Bellwork Tuesday, April 28, 2015 3rd hour

Solve each radical equation. Check your solutions.

1. $8\sqrt{2x-1}+9=33$

2. $10-\sqrt[3]{x+7}=13$

3. $\sqrt{3x+13}-5=x$

4. $\sqrt{24-4x}+3=x$

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1. $8\sqrt{2x-1}+9=33$

$-9 \quad -9$

$\frac{8\sqrt{2x-1}}{8}=\frac{24}{8}$

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

$2x-1=9$

$+1 \quad +1$

$\frac{2x}{2}=\frac{10}{2}$

$x=5$

2. $10-\sqrt[3]{x+7}=13$

$-10 \quad -10$

$\frac{-\sqrt[3]{x+7}}{-1}=\frac{3}{-1}$

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

$x+7=-27$

$-7 \quad -7$

$x=-34$

3. $\sqrt{3x+13}-5=x$

$+5 \quad +5$

$\left(\sqrt{3x+13}\right)^2=(x+5)^2$

$3x+13=x^2+10x+25$

$-3x \qquad -3x$

$13=x^2+7x+25$

$-13 \qquad -13$

$0=x^2+7x+12 \Rightarrow (x+3)(x+4)$

$x=-3,-4$

4. $\sqrt{24-4x}+3=x$

$-3 \quad -3$

$\left(\sqrt{24-4x}\right)^2=(x-3)^2$

$24-4x=x^2-6x+9$

$-24 \qquad -24$

$-4x=x^2-6x-15$

$+4x \qquad +4x$

$0=x^2-2x-15$

$0=(x-5)(x+3)$

$x=5,-3$ ~~$-3$~~

$x=5$