Algebra 2 Bellwork Thursday, April 30, 2015 1st 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. $\sqrt{24-4x}+3=x$

Algebra 2 Bellwork Thursday, April 30, 2015 1st hour Answers

Solve each radical equation. Check your solutions.

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

$-9 \quad -9$

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

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

$2x-1=9$

$+1 \quad +1$

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

$x=5$

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

$-10 \quad -10$

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

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

$x+7=-27$

$-7 \quad -7$

$x=-34$

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

$+5 \quad +5$

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

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

$-13 \quad -13$

$3x=x^2+10x+12$

$-3x \quad -3x$

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

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

$x=-3,-4$

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

$-3 \quad -3$

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

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

$-24 \quad -24$

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

$+4x \quad +4x$

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

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

$x=5,-3$

$x=5$