CCSS Advanced Algebra 4 Quadratic Formula Check In Name _____

1. Use the Quadratic Formula $ax^2+bx+c=0 \Rightarrow x=\frac{-b+\sqrt{b^2-4ac}}{2a}$ or $x=\frac{-b-\sqrt{b^2-4ac}}{2a}$, to solve each equation:

a. $2x^2+7x-3=0$

$x=\frac{-7\pm\sqrt{7^2-4(2)(-3)}}{2(2)}$

$=\frac{-7\pm\sqrt{49+24}}{4}$

$\frac{-7\pm\sqrt{73}}{4}$

b. $x^2=11-x$

$x^2+x-11=0$

$x=\frac{-1\pm\sqrt{1^2-4(1)(-11)}}{2(1)}$

$=\frac{-1\pm\sqrt{1+44}}{2}$

$=\frac{-1\pm\sqrt{45}}{2}$

c. $9x^2+6x=-1$

$9x^2+6x+1=0$

$x=\frac{-6\pm\sqrt{6^2-4(9)(1)}}{2(9)}$

$=\frac{-6\pm\sqrt{36-36}}{18}$

$=\frac{-6\pm\sqrt{0}}{18}$

$=-1/3$

2. The function $f(x)=ax^2+24x+72$ has exactly one x-intercept. Use the Quadratic Formula to find the value of a.

$x=\frac{-24\pm\sqrt{24^2-4(a)(72)}}{2a}=\frac{-24\pm\sqrt{576-288a}}{2a}$

If one x-int, then $\sqrt{0}$. So,

$576-288a=0 \rightarrow 576=288a \rightarrow a=2$

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b. $2x^2+7x-3=0$ b. $x^2=11-x$ c. $9x^2+6x=-1$

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