Pre-Calculus 11

Name: KEY

Section 2.5 – Proficiency Check

Solve the following Radicals:

Emerging	Emerging
What is the Domain Restriction of the following? $\sqrt{x-1}+\sqrt{x+3}=13$ $x \geq 1$ $x \geq -3$ most important $x \geq 1$	Solve. Check for Extraneous Roots. $\sqrt{x-1}+7=13$ $-7 \quad -7$ $\sqrt{x-1}=6$ square both sides $x-1=36$ $x=37$ check: $\sqrt{37-1}+7=13$ $\sqrt{36}+7=13$ $6+7=13$ ✓

Solve the following Check for Extraneous Roots and Identify Domain Restrictions.

Proficient	Extending
D: $5a-5 \geq 0$ $5a \geq 5$ $a \geq 1$ $-8+\sqrt{5a-5}=-3$ $+8 \quad +8$ $\sqrt{5a-5}=5$ $5a-5=25$ $5a=30$ $a=6$ check: $-8+\sqrt{5(6)-5}=-3$ $-8+\sqrt{25}=-3$ $-8+5=-3$ $-3=-3$ ✓	$\sqrt{x+7}+\sqrt{2x-3}=4$ $-\sqrt{2x-3}$ $-\sqrt{2x-3}$ $\sqrt{x+7}=4-\sqrt{2x-3}$ $x+7=(4-\sqrt{2x-3})(4-\sqrt{2x-3})$ $x+7=16-8\sqrt{2x-3}+2x-3$ $8\sqrt{2x-3}=16-3+x-7$ $8\sqrt{2x-3}=x+6$ $(8\sqrt{2x-3})^2=(x+6)^2$ $64(2x-3)=x^2+12x+36$ $128x-192=x^2+12x+36$ $0=x^2-116x+228$ $0=(x-114)(x-2)$ $x=114$ Reject $x=2$ check: $\sqrt{114+7}+\sqrt{2(114)-3}=4$ $11+15=4$ NOPE $\sqrt{9}+\sqrt{1}=4$ $4=4$ ✓

228 → 2, 114 → 2, 57 → 114