Algebra IIA
5.6 Simplifying and multiplying radicals **Name** _____

List the numbers that are "perfect" squares:

Simplify the following square roots: (Find the biggest number on the list that goes into the number and break it down)

1. $\sqrt{20}$
2. $\sqrt{40}$
3. $\sqrt{99}$
4. $\sqrt{108}$
5. $\sqrt{420}$
6. $\sqrt{45}$
7. $\sqrt{147}$
8. $\sqrt{72}$
9. $\sqrt{75}$
10. $\sqrt{80}$
11. $\sqrt{1000}$
12. $\sqrt{150}$
13. $3\sqrt{4}$
14. $2\sqrt{12}$
15. $5\sqrt{8}$
16. $3\sqrt{150}$

Products of Radicals (Multiply together and then take apart…remember $\sqrt[n]{a}\cdot\sqrt[n]{b}=\sqrt[n]{ab}$ ***)***

17. $\sqrt{60}\cdot\sqrt{5}$

18. $\sqrt{6}\bullet\sqrt{10}$

19. $\sqrt{50}\bullet\sqrt{12}$

20. $\sqrt{8}\bullet\sqrt{3}$

21. $\left(\sqrt{8}\right)\left(\sqrt{6}\right)$

22. $\left(2\sqrt{5}\right)\left(3\sqrt{4}\right)$

23. $\left(2\sqrt{12}\right)\left(3\sqrt{3}\right)$

24. $2\sqrt{5}\bullet\sqrt{60}$

25. $\sqrt{12}\bullet\sqrt{50}$

26. $2\sqrt{3}\bullet3\sqrt{4}$

27. $3\sqrt{5}\bullet4\sqrt{20}$