Name:_____   Period:_____Date:_____

Radicals and Rational Exponents

Section I. **Write in radical format**

1. $36^{\frac{1}{2}}$ = _____

2. $125^{\frac{1}{3}}$ = _____

3. $16^{\frac{1}{2}}$ = _____

4. $343^{\frac{1}{3}}$ = _____

5. $32^{\frac{1}{5}}$ = _____

6. $1000^{\frac{1}{3}}$ = _____

7. $64^{\frac{2}{3}}$ = _____

8. $216^{\frac{2}{3}}$ = _____

9. $32^{\frac{3}{5}}$ = _____

10. $64^{\frac{5}{6}}$ = _____

Section II. **Write in exponential format**

11. $\sqrt{121}$ = _____

12. $\sqrt[4]{625}$ = _____

13. $\sqrt{289}$ = _____

14. $\sqrt[3]{512}$ = _____

15. $\left(\sqrt[3]{512}\right)^{4}$ = _____

16. $\left(\sqrt[3]{8}\right)^{5}$ = _____

17. $\left(\sqrt[4]{256}\right)^{3}$ = _____

18. $\left(\sqrt{9}\right)^{3}$ = _____

19. $\left(\sqrt[6]{1,000,000}\right)^{5}$ = _____

20. $\left(\sqrt[3]{343}\right)^{2}$ = _____