Name Key Date _____ Pd ____

Quiz Review 5.1 – 5.2

☑ *Use when you get it right all by yourself*

S *Use when you did it all by yourself, but made a silly mistake*

H *Use when you could do it alone with a little help from teacher or peer*

G *Use when you completed the problem in a group*

X *Use when a question was attempted but wrong (get help)*

N *Use when a question was not even attempted*

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Simplify radicals with & without a calculator	1 - 4	1 - 4	5 - 11
Rationalize the denominator	12 – 14		
Multiplying by the conjugate	12 - 14		
Multiplying with radicals	15	16	17
Simplifying rational exponents	18	21, 22	23
Simplifying negative exponents	18	21	
Dividing radicals		19 – 20	23
Laws of exponents	21	22	23
Solving radical equations			24 - 26

Simplify with *(round to the thousandths)* **and without a calculator. TWO ANSWERS!!**

1. $\sqrt[3]{125}$

$= 5$

≈ 5

2. $\sqrt[4]{284}$

$= \sqrt[4]{284}$

≈ 4.105

3. $\sqrt[2]{54}$

$= 3\sqrt{6}$

≈ 7.348

4. $\sqrt[3]{81}$

$= 3\sqrt[3]{3}$

≈ 4.327

Simplify completely. No negative exponents or radicals in the denominator. Leave answers exact.

5. $\pm\sqrt{256}$

± 16

6. $\sqrt[3]{-216}$

-6

7. $\sqrt[5]{c^5 d^{15}}$

cd^3

8. $\sqrt[4]{16m^6}$

$2m\sqrt[4]{m^2}$

9. $\sqrt{5} + \sqrt[2]{20}$

$3\sqrt{5}$

10. $5\sqrt{12} - 3\sqrt[2]{75}$

$-5\sqrt{3}$

11. $6\sqrt[5]{11} - 8\sqrt[5]{11}$

$-2\sqrt[5]{11}$

12. $\frac{-2}{3+\sqrt{5}}$

$\frac{-3+\sqrt{5}}{2}$

13. $\frac{3}{4+\sqrt{2}}$

$\frac{12-3\sqrt{2}}{14}$

14. $\frac{\sqrt{10}}{\sqrt{3}-1}$

$\frac{\sqrt{30}+\sqrt{10}}{2}$

15. $(3\sqrt{5})(-2\sqrt{3})$

$-6\sqrt{15}$

16. $(\sqrt[2]{12})^2$

12

17. $(\sqrt{8}+\sqrt{12})^2$

$20+8\sqrt{6}$

18. $\left(\frac{8}{27}\right)^{-\frac{2}{3}}$

$\frac{9}{4}$

19. $\sqrt{\frac{25}{4}}$

$\frac{5}{2}$

20. $\frac{\sqrt[3]{81}}{\sqrt[3]{3}}$

3

21. $\left(x^{-\frac{1}{3}}\right)^{\frac{3}{2}}$

$\frac{1}{x^{\frac{1}{2}}}$

22. $6^{\frac{1}{3}} \cdot 6^{\frac{5}{3}}$

36

23. $\frac{8^{\frac{1}{4}}}{8^{\frac{3}{4}}}$

$\frac{\sqrt{2}}{4}$

Solve the equation. Check for extraneous solutions. Remember your ± when appropriate.

24. $6+2x\sqrt{3}=0$

$x=\frac{-6}{2\sqrt{3}}=\frac{-6\sqrt{3}}{6}$

$-\sqrt{3}$

25. $\sqrt[2]{3n-5}-3=4$

$n=18$

26. $\sqrt[4]{2x-1}=2$

$x=\frac{17}{2}$

CYU Reflection: *How far can you go: basic, intermediate, or advanced?*

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.