### Lesson 5 Practice Problems

1. Write each expression in the form $a^{b}$, without using any radicals.
	1. $\sqrt{5^{9}}$
	2. $\frac{1}{\sqrt[3]{12}}$
2. Write $32^{-\frac{2}{5}}$ without using exponents or radicals.
3. Match the equivalent expressions.
	1. $8^{\frac{1}{3}}$
	2. $8^{-\frac{1}{3}}$
	3. $8^{-1}$
	4. $16^{\frac{1}{2}}$
	5. $16^{-\frac{1}{2}}$
	6. $16^{0}$
	7. $\frac{1}{8}$
	8. $\frac{1}{4}$
	9. $\frac{1}{2}$
	10. 1
	11. 2
	12. 4
4. Complete the table. Use powers of 27 in the top row and radicals or rational numbers in the bottom row.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * $27^{1}$
 | *
 | * $27^{\frac{1}{3}}$
 | *
 | * $27^{-\frac{1}{2}}$
 | *
 |
| * 27
 | * $\sqrt{27}$
 | *
 | * 1
 | *
 | * $\frac{1}{3}$
 |

* (From Unit 3, Lesson 3.)
1. What are the solutions to the equation $\left(x−1\right)\left(x+2\right)=-2$?
* (From Unit 2, Lesson 11.)
1. Use exponent rules to explain why $\left(\sqrt{5}\right)^{3}=\sqrt{5^{3}}$.
* (From Unit 3, Lesson 4.)



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