math Antics Worksheets

Name: _____

Date: _____

Exponent Rules Practice

EIA 1

Instructions: Find the value of these exponents using the rules that you learned in the video. You will also need to know the perfect squares from the multiplication table.

1. $2^0 = 1$
2. $10^1 = 10$
3. $5^2 =$ _____
4. $5^0 =$ _____
5. $x^1 =$ _____
6. $2^2 =$ _____
7. $7^2 =$ _____
8. $7^1 =$ _____
9. $7^0 =$ _____
10. $x^0 =$ _____
11. $a^1 =$ _____
12. $a^0 =$ _____
13. $6^2 =$ _____
14. $3^2 =$ _____
15. $3^1 =$ _____
16. $12^2 =$ _____
17. $8^2 =$ _____
18. $m^0 =$ _____
19. $29^1 =$ _____
20. $32^0 =$ _____

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Exponent - Root Relationship

EIA 2

Instructions: Use what you've learned about the relationship between exponents and roots to evaluate these expressions.

1. $(\sqrt{7})(\sqrt{7}) =$ 7

2. $\sqrt{(x)(x)} =$ x
   where x ≥ 0

3. $(\sqrt{15})(\sqrt{15}) =$ ____

4. $(\sqrt[3]{x})(\sqrt[3]{x})(\sqrt[3]{x}) =$ ____

5. $(\sqrt{b})^2 =$ ____
   where b ≥ 0

6. $\pm\sqrt{(a \times a)} =$ ____

7. $\sqrt{(9 \times 9)} =$ ____

8. $(\sqrt{99})^2 =$ ____

9. $\sqrt[2]{c^2} =$ ____
   where c ≥ 0

10. $(\sqrt{10})(\sqrt{10}) =$ ____

11. $(\sqrt[3]{2x})^3 =$ ____

12. $\sqrt{(5 \times 5)} =$ ____

13. $\pm\sqrt{(n)(n)} =$ ____

14. $\sqrt[3]{b^3} =$ ____

15. $\sqrt{(x+1)^2} =$ ____
    where x ≥ 0

16. $\sqrt[3]{(4)(4)(4)} =$ ____

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1-Step Equations with Exponents & Roots - Set 1

ESR 3

Instructions: Solve for x. (Remember to do the same thing to both sides of the equation.)

1 $\sqrt{x} = 4$

$(\sqrt{x})^2 = 4^2$

$x = 16$

2 $x^2 = 49$

$\sqrt{x^2} = \pm\sqrt{49}$

$x = \pm 7$

3 $x^2 = 100$

4 $\sqrt{x} = 2$

5 $\sqrt{x} = 8$

6 $x^2 = 81$

7 $11 = \sqrt{x}$

8 $x^3 = 8$

9 $x^2 = 36$

10 $\sqrt[3]{x} = 5$

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1-Step Equations with Exponents & Roots - Set 2

ESR 4

Instructions: Solve for x. (Remember to do the same thing to both sides of the equation.)

1. $x^2 = 64$

2. $\sqrt{x} = 6$

3. $x^2 = 400$

4. $\sqrt{x} = 12$

5. $\sqrt[3]{x} = 6$

6. $x^4 = 81$

7. $\sqrt[3]{x} = 2$

8. $x^3 = 125$

9. $x^2 = 144$

10. $x^3 = 27$