Name: _____

Date: _____

Exponent Rules Practice

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 $2^0 =$ <u> 1 </u>

2 $10^1 =$ <u> 10 </u>

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

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

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

2 $\sqrt{(x)(x)} = \underline{x}$
where $x \geq 0$

3 $(\sqrt{15})(\sqrt{15}) = \underline{\quad}$

4 $(\sqrt[3]{x})(\sqrt[3]{x})(\sqrt[3]{x}) = \underline{\quad}$

5 $(\sqrt{b})^2 = \underline{\quad}$
where $b \geq 0$

6 $\pm\sqrt{(a \times a)} = \underline{\quad}$

7 $\sqrt{(9 \times 9)} = \underline{\quad}$

8 $(\sqrt{99})^2 = \underline{\quad}$

9 $\sqrt[2]{c^2} = \underline{\quad}$
where $c \geq 0$

10 $(\sqrt{10})(\sqrt{10}) = \underline{\quad}$

11 $(\sqrt[3]{2x})^3 = \underline{\quad}$

12 $\sqrt{(5 \times 5)} = \underline{\quad}$

13 $\pm\sqrt{(n)(n)} = \underline{\quad}$

14 $\sqrt[3]{b^3} = \underline{\quad}$

15 $\sqrt{(x + 1)^2} = \underline{\quad}$
where $x \geq 0$

16 $\sqrt[3]{(4)(4)(4)} = \underline{\quad}$

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1-Step Equations with Exponents & Roots - Set 1

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

1
$$\sqrt{x} = 4$$
$$\sqrt{x}^2 = 4^2$$
$$\boxed{x = 16}$$

2
$$x^2 = 49$$
$$\sqrt{x^2} = \pm\sqrt{49}$$
$$\boxed{x = \pm 7}$$

3 $\quad x^2 = 100$

4 $\quad \sqrt{x} = 2$

5 $\quad \sqrt{x} = 8$

6 $\quad x^2 = 81$

7 $\quad 11 = \sqrt{x}$

8 $\quad x^3 = 8$

9 $\quad x^2 = 36$

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

1-Step Equations with Exponents & Roots - Set 2

A−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 $x^3 = 27$