

Date: 02.19.19

1.  $(-3)^4 = \boxed{81}$

2.  $-3^4 = -(3)^4 = \boxed{-81}$

3.  $7^{-1} - 9^{-1} = \frac{1}{7} - \frac{1}{9} = \frac{9-7}{63} = \boxed{\frac{2}{63}}$

4.  $\left(\frac{3}{5}\right)^{-2} = \left(\frac{5}{3}\right)^2 = \boxed{\frac{25}{9}}$

5.  $(4.1795)^3 = \boxed{73.01}$

6.  $(3a^3)^3 = 3^3 \cdot a^{3 \cdot 3} = \boxed{27a^9}$

7.  $(4x^2y^{-3})(3x^5y^2) = 12x^7y^{-1} = \boxed{\frac{12x^7}{y}}$

8.  $5 - \sqrt{3} =$

(a) conjugate?  $\boxed{5 + \sqrt{3}}$

(b) product of number & its conjugate

$$(5 + \sqrt{3})(5 - \sqrt{3}) = 25 - 3 = \boxed{22}$$

9.  $\sqrt{63} = \sqrt{3 \cdot 7} = \boxed{3\sqrt{7}}$

10.  $\sqrt[3]{56} = \sqrt[3]{2^3 \cdot 7} = \boxed{2\sqrt[3]{7}}$

7 <sup>1</sup> < 8  
28  
14  
7

$$11. \sqrt[9]{125a^3b^6} = \sqrt[9]{5^3a^3b^6} = 5^{\frac{3}{9}} \cdot a^{\frac{3}{9}} \cdot b^{\frac{6}{9}} = \boxed{\sqrt{5ab^2}}$$

$\begin{array}{c} \wedge \\ (5) \ 25 \\ \wedge \\ (5) \ (5) \end{array}$

$$12. \frac{3}{(3+\sqrt{5})} \frac{(3-\sqrt{5})}{(3-\sqrt{5})} = \frac{9-3\sqrt{5}}{9-5} = \boxed{\frac{9-3\sqrt{5}}{4}}$$

13. Put in exponential form.

$$\sqrt[2]{x^y} = \boxed{x^{y/2}}$$

$$14. (8x^4)(2x^0)^3 = (8x^4)(2 \cdot 1)^3 = 8x^4 \cdot 8 = \boxed{64x^4}$$

$$15. \frac{36x^3}{24x^7} = \boxed{\frac{3}{2x^4}}$$

$$16. \left(\frac{x^2y^{-3}}{2}\right)^{-4} = \left(\frac{2}{x^2y^{-3}}\right)^4 = \frac{2^4}{x^8y^{-12}} = \boxed{\frac{16y^{12}}{x^8}}$$

# Opposite 2 numbers that results zero are ~~reciprocals~~ opposites.

# 2 numbers which product is one are reciprocals.

$$17. -7^0 = \boxed{-1}$$

$$(-7)^0 = \boxed{1}$$

$$18. \text{ Put in radical form. } 5^{7/5} = \boxed{5\sqrt{5^7}}$$

$$19. \text{ Calculator? } \sqrt[7]{144} = \boxed{2.03}$$

$$20. 3^{\sqrt{}} \cdot 3^5 = \quad \textcircled{a} 9^7 \quad \textcircled{b} 9^{10} \quad \textcircled{c} 3^7 \quad \textcircled{d} 3^{10}$$

$$21. (2x^{\sqrt{}} + 3x - 7) + (x^{\sqrt{}} - 5x - 5)$$

$$= \boxed{3x^{\sqrt{}} - 2x - 12}$$

$$22. (3x - 5y)(3x + 5y)$$

$$= \boxed{9x^{\sqrt{}} - 25y^{\sqrt{}}}$$

$$23. 5(2x + 3)^{\sqrt{}}$$

$$= 5(2x + 3)(2x + 3)$$

$$= 5(4x^{\sqrt{}} + 6x + 6x + 9)$$

$$= 5(4x^{\sqrt{}} + 12x + 9)$$

$$= \boxed{20x^{\sqrt{}} + 60x + 45}$$