

Unit 2 Review

Domain/Range

Types of #'s

Function /  $f(x)$ 

Exponent Rules

$$x^2 \cdot x^{10} = x^{12}$$

$$\frac{x^{30}}{x^3} = x^{27}$$

$$(x^5)^6 = x^{30}$$

$$(-3)^{-2} = \frac{1}{(-3)^2} = \frac{1}{9}$$

$$x^{-7} = \frac{1}{x^7} = \frac{1}{\text{xxxxxxxx}}$$

$$x^0 = 1$$

$$x^1 = x$$

$$(-5x^1y^2z^{-3})(-4x^5y^4z^6)$$

$$20x^6y^6z^3$$

$$\left(x^4/h^{10}\right)^3$$

$$x^{12}/h^{30}$$

$$\frac{2x^3y^8z^{-9}}{16x^5y^5z^{-3}}$$

$$x^{-2}y^3z^{-6} = \frac{y^3}{8x^2z^6}$$

$$\frac{1}{8}$$

$$\frac{y^3}{8x^2z^6}$$

$$\sqrt[3]{-8} = -2$$

$$\sqrt{-8} = \text{imaginary}$$

$$(64)^{2/3} = (\sqrt[3]{64})^2$$

$$4^2 = 16$$

$$\sqrt{200} = 10\sqrt{2}$$

$$\begin{array}{c} \swarrow \quad \searrow \\ \sqrt{100} \quad \sqrt{2} \\ \parallel \\ 10 \end{array}$$

$$\sqrt[3]{200} = 30\sqrt{2}$$

$$\begin{array}{c} \wedge \\ \sqrt{100} \sqrt{2} \\ \parallel \\ 10 \end{array}$$

$$\sqrt{40} \cdot \sqrt{2} = \sqrt{80} = 4\sqrt{5}$$

$\swarrow$        $\searrow$   
 $\sqrt{4}$      $\sqrt{20}$   
 $=$        $\swarrow$      $\searrow$   
 $(2)$      $\sqrt{4}$      $\sqrt{5}$   
 $\quad$      $=$        $\neq$   
 $\quad$      $(2)$

$$3\sqrt{5} - 2\sqrt{45}$$

$\swarrow$        $\searrow$   
 $\sqrt{9}$      $\sqrt{5}$   
 $=$        $\neq$   
 $3$

$$3\sqrt{5} - 6\sqrt{5}$$

$(-3\sqrt{5})$

$$4\sqrt{7} + 6\sqrt{112}$$

$\swarrow$        $\searrow$   
 $\sqrt{16}$      $\sqrt{7}$   
 $=$        $\neq$   
 $4$

$$4\sqrt{7} + 24\sqrt{7}$$

$(28\sqrt{7})$

$$\sqrt{150 x^6 y^9 z^8} = 5x^3 y^4 z^4 \sqrt{6y}$$

$\sqrt{150}$  is broken down into  $\sqrt{25} \cdot \sqrt{6}$ . The 25 is circled in red, and the 6 is underlined in green.

$\sqrt{x^6}$  is simplified to  $x^3$ , which is circled in red.

$\sqrt{y^9}$  is simplified to  $y^4 \sqrt{y}$ . The  $y^4$  is circled in red, and the  $\sqrt{y}$  is underlined in green.

$\sqrt{z^8}$  is simplified to  $z^4$ , which is circled in red.

$(\sqrt{x+2})^2 = 6^2$

$x+2 = 36$   
 $-2 \quad -2$   
 $x = 34$  (circled in blue)

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$9 + \sqrt{y-2} = 5$   
 $-9 \quad -9$

$\sqrt{y-2} = -4$  (crossed out with a blue star and line)

$y-2 = 16$   
 $+2 \quad +2$   
 $y = 18$

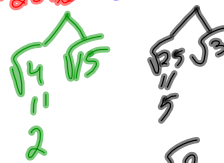
$\sqrt{y-2}$  (circled in blue)

$\sqrt{f-#}$  (circled in blue)

No solution



$$2\sqrt{3}+8 + 20\sqrt{6} + 10+5\sqrt{3}$$



$$2\sqrt{3}+8 + 40\sqrt{15} + 25\sqrt{3}$$

$$27\sqrt{3} + 40\sqrt{15} + 18$$