

Date: 02.12.19

$$1) \sqrt{18x^3} = \sqrt{2 \cdot 3 \cdot 3 \cdot x \cdot x \cdot x} = \boxed{3x\sqrt{2x}}$$

2    9  
  /  \  
②   9  
      /  \  
      3   3

$$2) \sqrt[3]{40a^3b^4} = \sqrt[3]{2 \cdot 2 \cdot 2 \cdot 5 \cdot a \cdot a \cdot a \cdot b \cdot b \cdot b \cdot b}$$

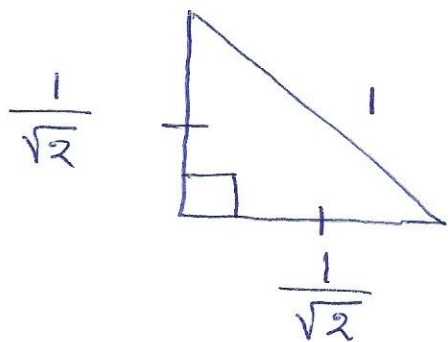
      /  \  
      4   10  
      /  \  
      2   2   2   5

$$= \boxed{2ab^3\sqrt[3]{5b}}$$

$$3) \sqrt[9]{a^3b^6} = \sqrt[9/3]{a^{3/3}b^{6/3}} = \boxed{\sqrt[3]{ab^2}}$$

$$4) \sqrt[6]{27x^3} = \sqrt[6/3]{3^{3/3}x^{3/3}} = \sqrt[2]{3x}$$
$$= \boxed{\sqrt{3x}}$$

III. No radical may appear in the denominator



$$\frac{2}{5} \cdot \frac{3}{3} = \frac{6}{15}$$

0-4

$$\sqrt{2} \cdot \sqrt{2} = \sqrt{4} = 2$$

$$\sqrt{7} \cdot \sqrt{7} = 7$$

$$\sqrt{5ab} \cdot \sqrt{5ab} = 5ab$$

$$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

Irrational number.

Rationalizing the denom.

$$\frac{2}{\sqrt{6}} \cdot \frac{\sqrt{6}}{\sqrt{6}} = \frac{\cancel{2}\sqrt{6}}{\cancel{6}_3} = \boxed{\frac{\sqrt{6}}{3}}$$

$$\frac{3}{(2+\sqrt{5})} \cdot \frac{(2-\sqrt{5})}{(2-\sqrt{5})}$$

conjugates

$$= \frac{6-3\sqrt{5}}{4-2\sqrt{5}+2\sqrt{5}-5}$$

$$= \frac{6-3\sqrt{5}}{-1} \quad \text{or} \quad \frac{-6+3\sqrt{5}}{1} = \boxed{-6+3\sqrt{5}}$$

$$(\sqrt{5}+\sqrt{2})(\sqrt{5}-\sqrt{2}) = \overset{F}{5} - \overset{O}{\sqrt{10}} + \overset{I}{\sqrt{10}} - \overset{L}{2} = \boxed{3}$$

$$(\sqrt{10}-3)(\sqrt{10}+3) = 10-9 = \boxed{1}$$

$$\underline{12\#} \quad \frac{2}{\sqrt{5}+\sqrt{6}} \cdot \frac{(\sqrt{5}-\sqrt{6})}{(\sqrt{5}-\sqrt{6})}$$

$$= \frac{2\sqrt{5}-2\sqrt{6}}{5-6}$$

$$= \frac{2\sqrt{5}-2\sqrt{6}}{-1}$$

$$= \boxed{2\sqrt{6}-2\sqrt{5}}$$

# Web assign. chapter P-3 :

## Poly nomials

I. Distinguished by the number of terms.

A.  $3x$  - Monomials

B.  $5x+7$  - Binomial

C.  $x^4+3x-14$  - Trinomial

D. A polynomial of 10 to 19 terms

REALLY BIG ANOMIAL

~~II~~

II. Distinguished by their degree.

Def. of Degree -

The largest exponent in any term of the

ex.  $7x^5-5x^3+2x-9$  Degree is...?

5

Standard Form - Decreasing order of exp.

Leading term -  $(7x^5)$  1st in st. form.

Leading co-efficient - (7) coeffi. of leading term

Polynomials must ~~be~~ have positive integer exponents.

Pos. Integers  
 $\{1, 2, 3, 4, \dots\}$

Adding Polynomials :

$$\begin{aligned} & (5x+7) + (3x-4) \\ &= \underline{5x+7} + \underline{3x-4} \\ &= \boxed{8x+3} \end{aligned}$$

Like Terms :

- 1) Same variables
- 2) Same exponents.

## Subtracting Polynomials :

$$(5x+7) - (3x-4)$$

$$= \underline{5x} + 7 - \underline{3x} + 4$$

$$= \boxed{2x + 11}$$

8, 5, 4, 9, 1, 7, 6, 3, 2

order of the numbers :