

**A Factor**

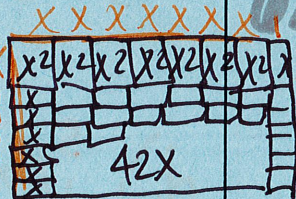
1)  $3x^4 - 12x^2 = 3x^2(x^2 - 4)$   
 Sum 2 cubes  $3x^2(x+2)(x-2)$   
 2)  $x^3 + 64 = (x+4)(x^2 - 4x + 16)$  formula card

**B  $x^4 - 16$**

$(x^2+4)(x^2-4)$   
 $(x^2+4)(x+2)(x-2)$   
 $15x^3 + 3x^2 = 3x^2(5x+1)$

**C Factor**

$7x^2 + 43x + 6$   
 $7x^2 + 42x + 1x + 6$   
 $7x(x+6) + 1(x+6)$   
 $(7x+1)(x+6)$



**D**

$6x^2 - 19x + 15$   
 $(3x-5)(2x-3)$   
 Box Circle  $(6x^2 - 9x - 10x + 15)$   
 $3x(2x-3) - 5(2x-3)$   
 $(3x-5)(2x-3)$

**E Factor State Restrictions then Simplify**

$x^2 + 3x - 18 = (x+6)(x-3)$   
 $x^2 - 36 = (x+6)(x-6)$   
 $\frac{x^2 + 3x - 18}{x^2 - 36} = \frac{(x+6)(x-3)}{(x+6)(x-6)}$   
 Ex:  $x \neq 6 \text{ or } -6$

**F  $x^2 + 2x$**

$\frac{x^2 + 2x}{x^2 + 4x + 4} = \frac{x(x+2)}{(x+2)(x+2)}$   
 $\frac{x}{x+2}$   
 Ex:  $x \neq -2$

**G  $\frac{x^2 + 6x + 9}{x^2 - 4} \cdot \frac{x+3}{x^2 - 9}$**

$\frac{(x+3)(x+3)}{(x+2)(x-2)} \cdot \frac{(x+3)}{(x+3)(x-3)}$   
 Ex:  $x \neq \pm 2, \pm 3$   
 $\frac{(x+3)(x+3)}{(x+2)(x-2)(x-3)}$

**H First**

$\frac{x}{x^2 - 9} + \frac{x-1}{x^2 - 5x + 6}$   
 $\frac{x}{(x+3)(x-3)} + \frac{(x-1)}{(x-3)(x-2)}$   
 $\frac{x^2 - 2x}{(x+3)(x-3)(x-2)} + \frac{x^2 + 2x - 3}{(x-3)(x+3)(x-2)}$   
 $\frac{2x^2 - 3}{(x+3)(x-3)(x-2)}$



# Stations 1



Name: \_\_\_\_\_

## College Alg M121 Chapter P Review

1 Simplify no decimals or negative exponents

$$a) \left( \frac{7x^5y^6}{28x^{15}y^{-2}} \right)^{-2} = \left( \frac{1y^8}{4x^{10}} \right)^{-2} = \frac{1^{-2}y^{-16}}{4^{-2}x^{-20}} = \frac{16x^{20}}{1y^{16}}$$

$$\boxed{\frac{16x^{20}}{1y^{16}}}$$

2

$$(-5x^3y^2)(-2x^{-11}y^{-2})$$

no need for parenthesis

$$\frac{10x^3y^2}{x^8y^2} = \frac{10}{x^8}$$

$$\boxed{\frac{10}{x^8}}$$

3 a)  $32^{\frac{1}{5}}$

Means Naughty

$$\square^5 = 32^{\frac{1}{5}} \text{ or } \sqrt[5]{32}$$

$$\boxed{\frac{1}{2}}$$

b)  $64^{\frac{4}{3}} \leftarrow (64^{\frac{1}{3}})^4 \text{ or } (\sqrt[3]{64})^4$

↑ means  $\square^3 = 64$

$$(4)^4 = 256 \quad \boxed{256}$$

4

c)  $81^{-\frac{3}{2}}$  Naughty  $\frac{1}{81^{\frac{3}{2}}} = \frac{1}{(\sqrt{81})^3}$

or  $(81^{\frac{1}{2}})^3 = 9^3$   $\boxed{\frac{1}{729}}$

d)  $\sqrt[3]{24x^6y^7}$

$$\sqrt[3]{8} \sqrt[3]{3x^6y^7} = 2x^2y^2\sqrt[3]{3y}$$

$$\boxed{2x^2y^2\sqrt[3]{3y}}$$

5 Write in standard form

Identify the leading coefficient

$$\begin{array}{r} 7x^2 - 8xy + y^2 \\ -8x^2 - 9xy - 4y^2 \\ \hline 15x^2 + xy + 5y^2 \end{array}$$

leading Coe A 15

6

$$8x^3 - 7x^4 + 14x^3 - 3$$

$$-7x^4 + 22x^3 - 3$$

leading Coe A -7

7 Perform operations

Write in standard form

$$(3x - 5y)^2$$

$$(3x - 5y)(3x - 5y)$$

$$9x^2 - 15xy - 15xy + 25y^2$$

$$\boxed{9x^2 - 30xy + 25y^2}$$

8

$$(a-b)(a^2 + ab + b^2)$$

$$a^3 + a^2b + ab^2 - ba^2 - ab^2 - b^3$$

equal zero equal zero

$$\boxed{a^3 - b^3}$$