

9-21-17 1st Trig

Factoring

$$\textcircled{1} \quad 5x^2y^3 + 10xy^5$$
$$5xy^3(x + 2y^2)$$

$$\textcircled{2} \quad x^2 + 19x + 60$$
$$(x+4)(x+15)$$

60
1, 60
2, 30
3, 20
4, 15
5, 12
6, 10

$$\textcircled{3} \quad 3x^2 + 11x + 8$$

$$\frac{3}{1,3} \quad 11x(x+1)(3x+8) \checkmark \quad \frac{8}{1,8}$$
$$25x(x+8)(3x+1) \quad 2,4$$
$$10x(x+2)(3x+4)$$
$$14x(x+4)(3x+2)$$

$$\textcircled{4} \quad (6x^3 + x) + (30x^2 + 5)$$

$$x(6x^2 + 1) + 5(6x^2 + 1)$$

$$(6x^2 + 1)(x + 5)$$

$$\textcircled{5} \quad x^3 - 1000 \quad \text{S O F A S}$$

$$(x - 10)(x^2 + 10x + 100)$$

$$\textcircled{6} \quad 8x^3 - 27y^3 \quad \text{S O F A S}$$

$$(2x - 3y)(4x^2 + 6xy + 9y^2)$$

$$\textcircled{7} \quad n+2 \overline{) n^2 + 8n + 1}$$

$$\quad \quad \quad \underline{-(n^2 + 2n)}$$

$$\quad \quad \quad \quad \quad 6n + 1$$

$$\quad \quad \quad \quad \quad \underline{-(6n + 12)}$$

$$\quad \quad \quad \quad \quad \quad \quad -11$$

$$\textcircled{8} \quad n-2 \overline{) n^2 - 5n - 3}$$

$$\quad \quad \quad \underline{-(n^2 - 2n)}$$

$$\quad \quad \quad \quad \quad -3n - 3$$

$$\quad \quad \quad \quad \quad \underline{-(-3n + 6)}$$

$$\quad \quad \quad \quad \quad \quad \quad -9$$

⑨ Simplify $\frac{n^2 + 6n + 5}{n + 5}$

$$\frac{\cancel{(n+5)}(n+1)}{\cancel{n+5}}$$

$$n+1 \quad [n \neq -5]$$

9-21-17 3rd Trig

FACTOR

$$\textcircled{1} \quad 2n^4y^2 + 6ny^5$$
$$2ny^2(n^3 + 3y^3)$$

$$\textcircled{2} \quad n^2 + 11n - 60$$
$$(n-4)(n+15)$$

<u>60</u>
1, 60
2, 30
3, 20
<u>-4, 15</u>
5, 12
6, 10

$$\textcircled{3} \quad 3x^2 + 25x + 8$$

<u>3</u>		<u>8</u>
1, 3	$11x(x+1)(3x+8)$	1, 8
	$25x(x+8)(3x+1)$ ✓	2, 4
	$16x(x+2)(3x+4)$	
	$14x(x+4)(3x+2)$	

$$\textcircled{4} \quad (2x^3 - 5x^2) + (6x - 15)$$
$$x^2(2x-5) + 3(2x-5)$$
$$(2x-5)(x^2+3)$$

$$\textcircled{5} \quad x^3 - 125$$

$$(x - 5) \overset{\text{S O F A S}}{(x^2 + 5x + 25)}$$

$$\textcircled{6} \quad 8x^3 + 27y^3$$

$$(2x + 3y) \overset{\text{S O F A S}}{(4x^2 - 6xy + 9y^2)}$$

$$\textcircled{7} \quad \begin{array}{r} x + 2 \sqrt{x^2 + 6x - 10} \\ \underline{-(x^2 + 2x)} \\ 4x - 10 \\ \underline{-(4x + 8)} \\ -18 \end{array}$$

$$\textcircled{8} \quad \text{Simplify } \frac{n^2 + 12n + 20}{n + 10}$$

$$\frac{(n+2)\cancel{(n+10)}}{\cancel{n+10}}$$

$$n+2 \quad [n \neq -10]$$

9-21-17 4th Try

FACTOR

① $6n^2y^3 - 8ny^4$

$2ny^3(3n - 4y)$

② $x^2 + 11x - 60$

$(x - 4)(x + 15)$

$\frac{60}{1, 60}$
 $2, 30$
 $3, 20$
 $-4, 15$
 $5, 12$
 $6, 10$

③ 2 $x^2 + 11x + 15$

$\frac{2}{1, 2}$

$17x(x + 1)(2x + 15)$

$31x(x + 15)(2x + 1)$

$11x(x + 3)(2x + 5)$ ✓

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

$\frac{15}{1, 15}$
 $3, 5$

④ $x^3 - 27$

$(x - 3)(x^2 + 3x + 9)$

$$\textcircled{5} (2x^3 - 5x^2) + (6x - 15)$$

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

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

$$\textcircled{6} \begin{array}{r} x + 2 \overline{) x^2 + 7x + 1} \\ \underline{-(x^2 + 2x)} \\ 5x + 1 \\ \underline{-(5x + 10)} \\ -9 \end{array}$$

$$\textcircled{7} \text{ Simplify } \frac{x^2 + 6x + 8}{x + 4}$$

$$\frac{\cancel{(x+4)}(x+2)}{\cancel{x+4}}$$

$$x + 2 \quad [x \neq -4]$$

⑧ Factor $8x^3 + 27y^3$

$$(2x + 3y) \overset{S}{\underset{4x^2}{\left(}} \overset{O}{-} \overset{F}{6xy} \overset{A}{+} \overset{S}{9y^2} \right)$$