

9-26-13
3rd Trig

Factor

① $x^2 - x - 12$ $\frac{12}{1, 12}$
 $(x-4)(x+3)$ $\frac{2, 6}{3, 4}$

② $2x^2 + 11x + 15$ $\frac{15}{1, 15}$
 $x(2x+1)(x+15)$
 $x(2x+15)(x+1)$
 $x(2x+3)(x+5)$
 $\checkmark (2x+5)(x+3)$ $\frac{3, 5}{}$

③ Use grouping method to
factor $\frac{2}{a}x^2 + 11x + \frac{15}{c}$. $ac = 30$
 $(2x^2 + 6x) + (5x + 15)$ $\frac{1, 30}{2, 15}$
 $2x(x+3) + 5(x+3)$ $\frac{3, 10}{5, 6}$
 $(x+3)(2x+5)$

④ Factor $x^2 - 25$
 $(x-5)(x+5)$

⑤ Factor $8x^3 - 27$
 $(2x-3)(4x^2 + 6x + 9)$ S O F A S

⑥ Factor $(6x^2 + 8x) + (15x + 20)$
 $2x(3x+4) + 5(3x+4)$
 $(3x+4)(2x+5)$

⑦ Simplify $\frac{n^2 + 6n + 5}{n^2 + 7n + 6}$

$$\frac{\cancel{(n+1)}(n+5)}{\cancel{(n+1)}(n+6)} = \frac{n+5}{n+6} \quad [n \neq -1]$$

⑧ $a+7 \overline{) a^2 - 6a + 1}$

$$\begin{array}{r} a - 13 + \frac{92}{a+7} \\ \underline{a^2 - 6a + 1} \\ -a^2 + 7a \quad \downarrow \\ \hline -13a + 1 \\ = \underline{-13a - 91} \\ \hline 92 \end{array}$$

9-26-13
4th Tr'y

Ch. 2 Review

① Factor $x^2 - 8x - 9$ $\frac{9}{+1,9}$
 $(x+1)(x-9)$ $\frac{3,3}$

② Factor $x^2 - 49$
 $(x+7)(x-7)$

③ factor $7x^2 + 43x + 6$ $\frac{6}{1,6}$
 $\frac{2,3}{2,3}$
 $\checkmark (7x+1)(x+6)$
 $\times (7x+6)(x+1)$
 $\times (7x+2)(x+3)$
 $\times (7x+3)(x+2)$

④ Factor above by busting B method

$7x^2 + 43x + 6$ $a \cdot c = 42$
 $\frac{1,42}{2,21}$
 $\frac{3,14}{6,7}$
 $(7x^2 + x) + (42x + 6)$
 $x(7x+1) + 6(7x+1)$
 $(7x+1)(x+6)$

⑤ Factor $x^3 - 125$
 S O F A S
 $(x-5)(x^2 + 5x + 25)$

⑥ Factor $(2xy + 3y) + (8x + 12)$
 $y(2x+3) + 4(2x+3)$
 $(2x+3)(y+4)$

⑦ Simplify $\frac{n^2 + 3n + 2}{n^2 + 8n + 7}$

$$\frac{\cancel{(n+1)}(n+2)}{\cancel{(n+1)}(n+7)} = \frac{n+2}{n+7} \quad [n \neq -1]$$

⑧

$$\begin{array}{r} n+2 \overline{) n^2 + 3n + 7} \\ \underline{-(n^2 + 2n)} \\ n+7 \\ \underline{-(n+2)} \\ 5 \end{array}$$