Algebra 2 TUES. 4-9-13 CLASS NOTES

(31) $\dfrac{25p^2+35p+12}{3p^2+2p-5} \div \dfrac{25p^2+35p+12}{15p+25}$

Sum = 2
prod = -15
-3 +5

$3p^2-3p+5p-5$

$3p(p-1)+5(p-1)$

$\dfrac{5(3p+5)}{(p-1)(3p+5)} = \dfrac{5}{p-1}$

$p = 1, \frac{-5}{3}$

$-\frac{4}{5}, -\frac{3}{5}$

sum = 35
prod = 300
+15 +20

300

$(25p^2+15p)+(20p+12)$

$5p(5p+3)+4(5p+3)$

(37) $26, 18, 10, 2, \ldots$

common difference $= -8$

$a_N = a_1 + (N-1)d$

$a_{33} = 26 + (32)(-8)$

$a_{33} = 26 - 256$

$\boxed{a_{33} = -230}$ ✓

(66) $\frac{3N}{2N} + \frac{N+6}{6N^3+9N-15N}$

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

sum = 9
prod = -10
-1 10
$(2N-1)(N+5)$

$\frac{3}{2} + \frac{N+6}{3N(2N-1)(N+5)}$

$\frac{9N(2N-1)(N+5)}{6N(2N-1)(N+5)} + \frac{2(N+6)}{6N(2N-1)(N+5)}$

$\frac{9N(2N-1)(N+5)+2(N+6)}{6N(2N-1)(N+5)}$

$\frac{9N(2N^2+9N-5)+2N+12}{6N(2N-1)(N+1)}$

$\boxed{\frac{18N^3+81N^2-43N+12}{6N(2N-1)(N+1)}}$

(71) $\dfrac{K-3}{9K^3-18K^2-27K} - \dfrac{4}{2K}$

$\dfrac{K-3}{9K(K^2-2K-3)}$

Sum = −2
Prod = −3
+1, −3

$\dfrac{K-3}{9K(K+1)(K-3)} - \dfrac{4}{2K}$

$\dfrac{1}{9K(K+1)} - \dfrac{4}{2K}$

$\dfrac{2K}{18K^2(K+1)} - \dfrac{9K(K+1)4}{18K^2(K+1)}$

$\dfrac{2K - [36K(K+1)]}{18K^2(K+1)}$

$\dfrac{2K(1-[18(K+1)])}{18K^2(K+1)}$

$\dfrac{1-18(K+1)}{9K(K+1)} = \dfrac{-17-18K}{9K(K+1)}$

(76) $\dfrac{x-5}{10x^2-58x-12} - \dfrac{4}{3x}$

$2(5x^2-29x-6)$

sum $= -29$

prod $= -30$

$+1 \quad -30$

$(5x^2-30x)+(1x-6)$

$5x(x-6)+1(x-6)$

$(x-6)(5x+1)$

$\dfrac{x-5}{2(x-6)(5x+1)} - \dfrac{4}{3x}$

$\dfrac{3x(x-5)}{2(x-6)(5x+1)(3x)} - \dfrac{2(x-6)(5x+1)(4)}{2(x-6)(5x+1)(3x)}$

$\left\{\begin{matrix}160\\72\\232\end{matrix}\right.$

(see next pg.) →

(76) (cont)

$$\frac{3x^2 - 15x - [40x^2 - 232x - 48]}{(6x)(x-6)(5x+1)}$$

| | |
|---|---|
| $\frac{-37x^2 + 217x + 48}{(6x)(x-6)(5x+1)}$ | $x = 0, 6, -\frac{1}{5}$ |