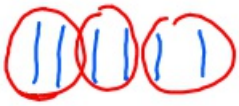
9-12-19 4th Trig

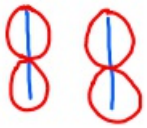
$\frac{6}{2}$ ← How many you have



3

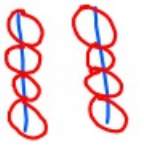
← put in groups of

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



4

$\frac{2}{\frac{1}{4}}$



8

$\frac{2}{0}$

← Can't put in groups of nothing

Undefined

① Simplify $\frac{(n+3)(n-2)}{n-2}$

$n-2 \neq 0$

$+2 \quad +2$

$n \neq 2$

$n+3 \quad [n \neq 2]$

② Simplify $\frac{n^2+7n+12}{n+3}$

12

1, 12

2, 6

3, 4

$n+3 \neq 0$

$-3 \quad -3$

$n \neq -3$

$\frac{(n+3)(n+4)}{n+3}$

$n+4 \quad [n \neq -3]$

③ $\dfrac{n^2+12n+20}{n^2+6n+8}$

20
1, 20
2, 10
4, 5

8
1, 8
2, 4

$\dfrac{(n+2)(n+10)}{(n+2)(n+4)}$

$n+2 \neq 0$
$-2 \quad -2$
$n \neq -2$

$\dfrac{n+10}{n+4}$ $[n \neq -2]$

④ $\dfrac{(3n+1)(n+4)}{(3n+1)(n-3)}$

$3n+1 \neq 0$
$-1 \quad -1$
$\frac{3n}{3} \neq \frac{-1}{3}$
$n \neq -1/3$

$\dfrac{n+4}{n-3}$ $\left[n \neq -\frac{1}{3}\right]$

⑤ Simplify $\dfrac{n^3+8}{n+2}$

S O F A S

$\dfrac{(n+2)(n^2-2n+4)}{n+2}$

n^2-2n+4 $[n \neq -2]$

Review

① List all possibilities for

$8x^2 + \square x + 21$

29x $(x + 1)(8x + 21)$

169x $(x + 21)(8x + 1)$

31x $(x + 3)(8x + 7)$

59x $(x + 7)(8x + 3)$

46x $(2x + 1)(4x + 21)$

86x $(2x + 21)(4x + 1)$

26x $(2x + 3)(4x + 7)$

34x $(2x + 7)(4x + 3)$

② Factor $21x^2 - x - 2$

$21 \cdot 2$ $(x \quad 1)(21x \quad 2)$

$42 \cdot 1$ $(x \quad 2)(21x \quad 1)$

$-7 + 6$ $(3x - 1)(7x + 2)$ ✓

$(3x \quad 2)(7x \quad 1)$

21: 1,21 / 3,7 — 2: 1,2

③ Factor $6x^2 + 31x - 11$

11,6 $(x \quad 1)(6x \quad 11)$

66,1 $(x \quad 11)(6x \quad 1)$

22,3 $(2x \quad 1)(3x \quad 11)$

$+33, -2$ $(2x + 11)(3x - 1)$ ✓

6: 1,6 / 2,3 — 11: 1,11

(4) Factor $12x^2 + 4x - 33$

33,12 $(x \quad 1)(12x \quad 33)$

$(x \quad 33)(12x \quad 1)$

3,11 $(x \quad 3)(12x \quad 11)$

132,3 $(x \quad 11)(12x \quad 3)$

$(2x \quad 1)(6x \quad 33)$ 66,6

$(2x \quad 33)(6x \quad 1)$

✓ $(2x - 3)(6x + 11)$ -18,+22

$(2x \quad 11)(6x \quad 3)$

$(3x \quad 1)(4x \quad 33)$

$(3x \quad 33)(4x \quad 1)$

$(3x \quad 3)(4x \quad 11)$

$(3x \quad 11)(4x \quad 3)$

12
1, 12
2, 6
3, 4

33
1, 33
3, 11