

TOMORROW: 7:00 BASKETBALL WOMENS. → EXTRA CREDIT.

TEST: MONDAY/TUESDAY 0730 [SCANTRON CALCULATOR NOTES]

REVIEW: FRIDAY

COMPLEX / COMPOUND FRACTIONS

e.g. $\frac{\frac{2}{3}}{\frac{4}{5}} = \frac{2}{3} \div \frac{4}{5} = \frac{2}{3} \cdot \frac{5}{4} = \frac{10}{12} = \frac{5}{6}$

$$(1) \frac{\frac{x^2+5x+6}{x^2-9}}{x^2-3x-10} = \frac{x^2+5x+6}{x^2-9} \div \frac{x^2-3x-10}{3x-15}$$

$$= \frac{x^2+5x+6}{x^2-9} \cdot \frac{3x-15}{x^2-3x-10}$$

$$= \frac{(x+2)(x+3)}{(x+3)(x-3)} \cdot \frac{3(x-5)}{(x-5)(x+2)}$$

$$= \boxed{\frac{3}{x-3}}$$

← Domain here is all real numbers except 3.

$$(2) \frac{\frac{x-4}{1}}{\frac{\frac{x}{4} - \frac{4}{x}}{1}} = \frac{x-4}{1} \div \frac{\frac{x^2-4^2}{4x}}{1}$$

$$= \frac{x-4}{1} \cdot \frac{4x}{x^2-4^2}$$

$$= \frac{(x-4)(4x)}{(1)(x+4)(x-4)}$$

$$= \boxed{\frac{4x}{x+4}}$$

⊗ two fractions added/subtracted cannot be inverted directly, make it into one fraction (with the HANDY-DANDY method) and then flip it.

← Domain here is all reals except -4.

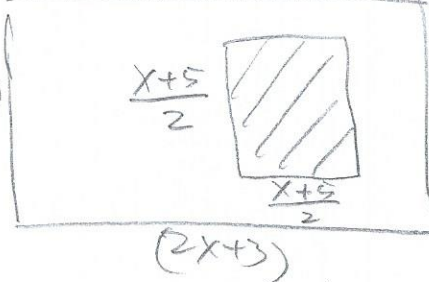
* When describing the ratio, whatever that is mentioned first becomes the numerator and what comes second in the description sentence is in the denominator.

WETBASSIGN - -

P.5-11. Find the ratio of the ^① shaded area to the ^② total area.

$$\text{ratio} = \frac{\left(\frac{x+5}{2}\right)\left(\frac{x+5}{2}\right)}{(x+5)(2x+3)}$$

\swarrow numerator expression
 \nwarrow denominator expression.



$$= \left(\frac{x+5}{2}\right) \cdot \left(\frac{x+5}{2}\right) \cdot \frac{1}{(x+5)(2x+3)}$$

$$= \frac{(x+5)^2}{4(x+5)(2x+3)}$$

$$= \frac{x+5}{4(2x+3)} = \frac{x+5}{8x+12}$$

← Domain is all real numbers except $-\frac{3}{2}$