

Pick Up the

WARM UP

SKIP #3
for now

HW TALLY

$$\frac{x(3x)}{2(3x)} - \frac{2(6)}{x(6)} + \frac{x(x)}{6(x)}$$

$$\frac{3x^2 - 12 + x^2}{6x}$$

← What is the
common denominator
for all three
?

$$\frac{x(3x)}{2(3x)} - \frac{2(6)}{x(6)} + \frac{x(x)}{6(x)}$$

$$\frac{3x^2 - 12 + x^2}{6x}$$

$$\downarrow$$

$$\frac{4x^2 - 12}{6x} \rightarrow \frac{4(x^2 - 3)}{6x}$$

$$\frac{2(x^2 - 3)}{3x}$$

② Now multiply the 3 fractions instead

$$\frac{x}{2} \cdot \frac{-2}{\cancel{6}} \cdot \frac{\cancel{x}}{\cancel{3} \cdot \cancel{6}} \rightarrow \frac{-x}{6}$$

$$\frac{-x}{6}$$

$$\frac{-x}{6}$$

$$(6x) \frac{x}{2} - \frac{(2)(6x)}{x} + \frac{x(6x)}{6} = 0(6x) \quad \text{Clear out the fractions}$$

$$\underline{3x^2} - 12 + \underline{x^2} = 0$$

$$4x^2 - 12 = 0$$

$$x = \pm \sqrt{3}$$

$$4x^2 = 12$$

$$x^2 = 3$$

$$\sqrt{\quad} \quad \sqrt{\quad}$$

$$\textcircled{3} \quad \frac{2}{x} - 2 + \frac{6}{x^2} = 0$$

13

⑤ $y = \frac{2(x-4)(x+3)}{(x+3)(x-4)}$ describe discontinuities

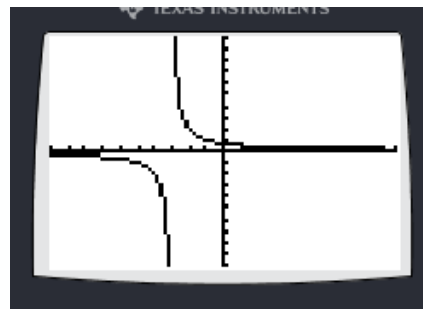
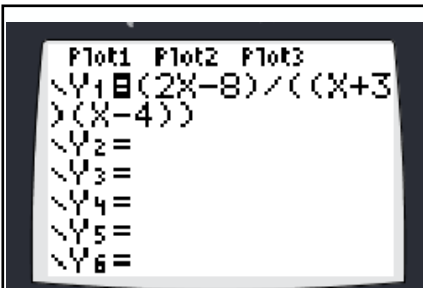
$$(x+3)(x-4) = 0$$

$$x+3=0 \quad x-4=0$$

$$x=-3 \quad x=4$$

hole at $x=4$

VA at $x=-3$



⑥ Factor

$$3x^2 - 27x \rightarrow 3x(x-9)$$

$$3x^2 - 27 \rightarrow 3(x^2 - 9) \rightarrow 3(x+3)(x-3)$$

$$4x^2 - 4 \quad \text{option 1} \quad 2(x^2 - 2) \rightarrow 2 \cdot 2(x^2 - 1)$$

$$4(x^2 - 1)$$

$$4(x+1)(x-1)$$

$$\text{option 2}$$

$$x(x+2)(x-2)$$

$$2(x+1) \cdot 2(x-1)$$

HW
QUESTIONS

$$120$$

(a) $\frac{1}{x+2} + \frac{3}{x^2-4}$

$$\frac{1}{x+2} + \frac{3}{(x+2)(x-2)}$$

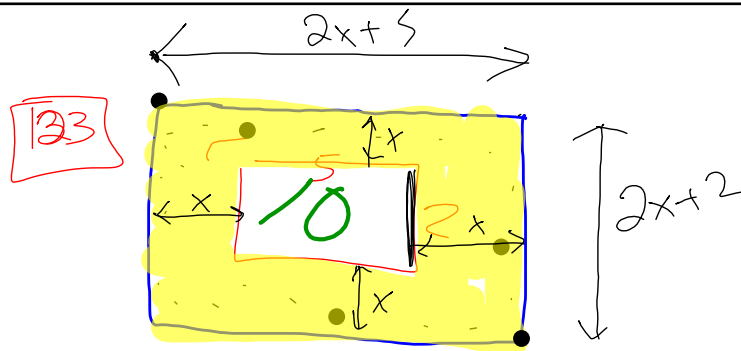
$$\frac{+}{(x+2)(x-2)}$$

(b) $\frac{3}{2x+4} - \frac{x}{x^2+4x+4}$

$$\textcircled{b} \quad \frac{3}{2x+4} - \frac{x}{x^2+4x+4}$$

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

$$\frac{x+6 - 2x}{2(x+2)(x+2)} = \frac{x+6}{2(x+2)^2}$$

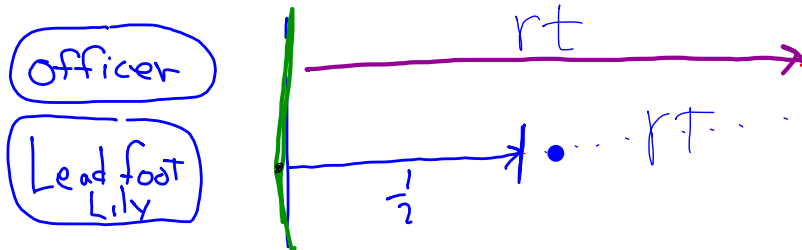


$$40 = (2x+5)(2x+2)$$

124 Leadfoot Lily 80 mph gets $\frac{1}{2}$ mile head start
 Officer 100 mph

distance = rate \cdot time

$$d = rt$$



When will the distance be the same?

$$100t = 0.5 + 80t$$

121 $\sqrt{x+2} = 8$

$$\boxed{126} \quad \textcircled{a} \quad 25x^2 - 1$$

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

$$\textcircled{c} \quad x^2 + x - 72 = (\quad x \quad)$$

$$\textcircled{d} \quad x^3 - 3x^2 - 18x$$

Ch. 3 TEST TOMORROW

because of the shorter periods
(Wed/Thur Advisory schedule)

you will not have time to assemble
your homework before the test
so, do it today and staple it today.

[there will be a review assignment
today that will be added to the sheet
next chapter]

Agenda

- ① ^{Go over} Helpful hints about the test
- ② Arrange/staple your assignments
- ③ Review Assignment
[3]... 129, 127bc, 128d, 131, 133
- ④ Extra Practice Review Sheet with answers.

If multiplying or
deviding
dividing

... no common denominator
needed.

When adding/subtracting

Rational
Functions

once you have a common
denominator

↓
combine to one

but only after you factor everything first!

$$\textcircled{b} \quad \frac{3}{2x+4} - \frac{x}{x^2+4x+4} \rightarrow (2x+4)(x^2+4x+4)$$

Factoring can take up a lot of space depending on the problem. I don't need to see this work so show factoring work on scratch paper on the test.

Two types of scratch paper.

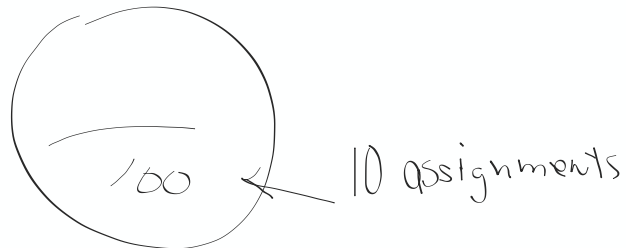
just scratch.... but must turn it in. Name not necessary.

However, if you you run out of room on a problem or you don't want to erase then add your name and staple it to your test.

Write a note "see scratch paper"

— Ch. 3 HOMEWORK Pocket

includes up to [3]... 120-121, 125-126

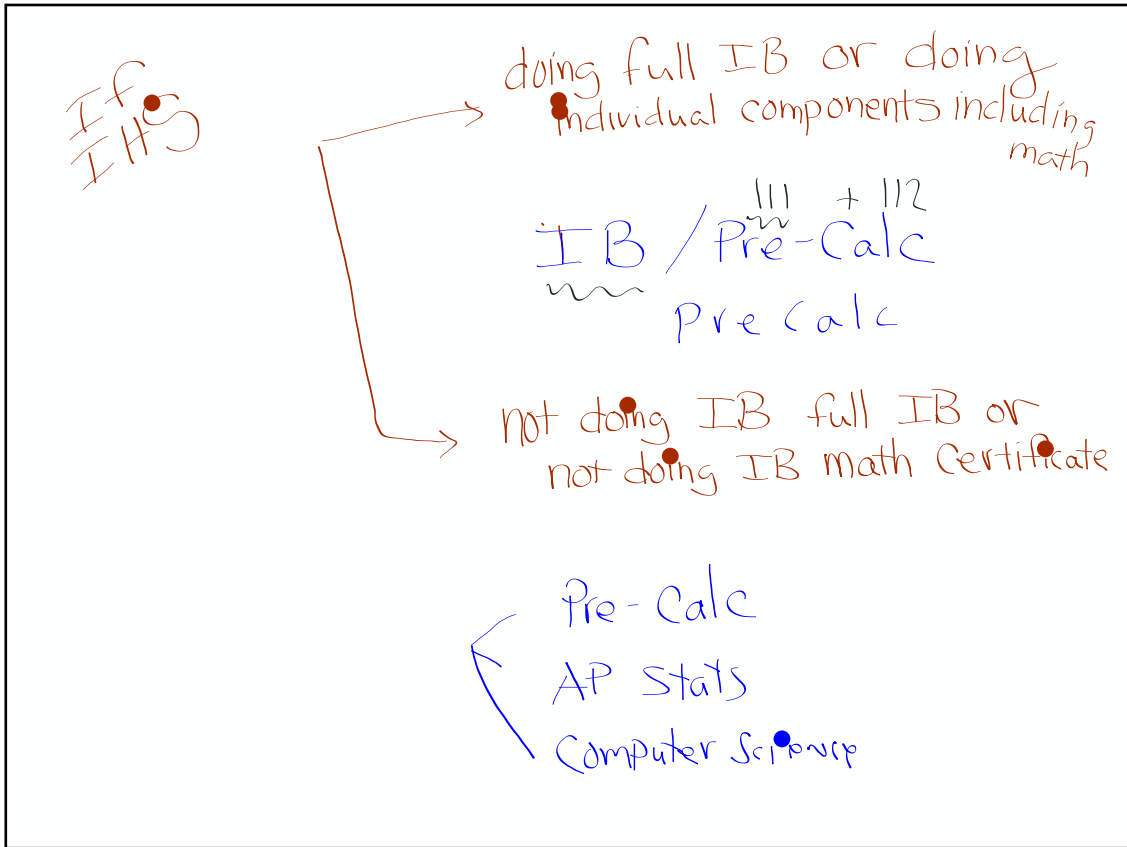


③ Review Assignment

[3]... 129, 127bc, 128d, 131, 133

but added to
the next HW
recording
sheet.

④ Extra Practice Review Sheet with answers.



(a) $n(2n+1)(2n-1)$ $4n^2-n$

$$\textcircled{b} \quad (2x-1)^2 \qquad 4x^2 - 1$$



$$\textcircled{b} \quad (2x-1)^2 \qquad 4x^2 - 1$$

↓

$$(2x-1)(2x-1) \neq 4x^2 - 1$$



NO

$$\textcircled{c} \quad 10x^2 - 55x - 105$$

$$5(2x+3)(x-7)$$

$$\textcircled{d} \quad \left(\frac{4x^{12}}{-2x^8} \right)^3$$

$$-8x^{12}$$

$$\textcircled{e} \quad 2x - 3y = 6$$

$$y = \frac{2}{3}x + 6$$

$$\textcircled{f}$$

$$\sqrt{108}$$

$$6\sqrt{3}$$

