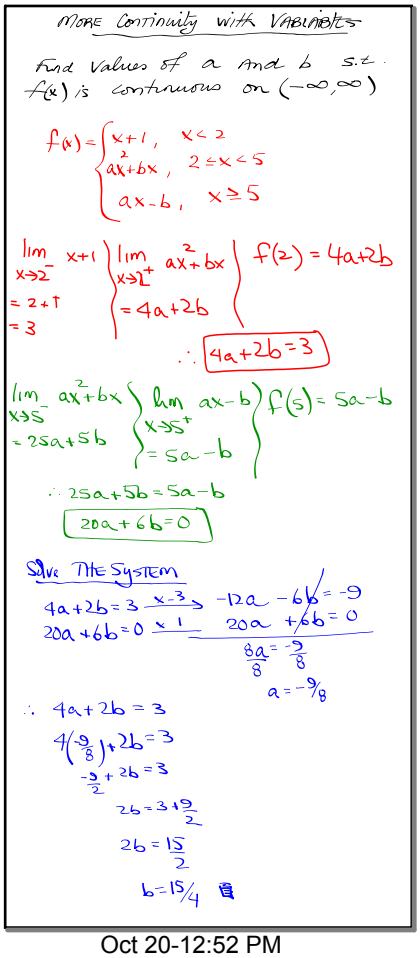

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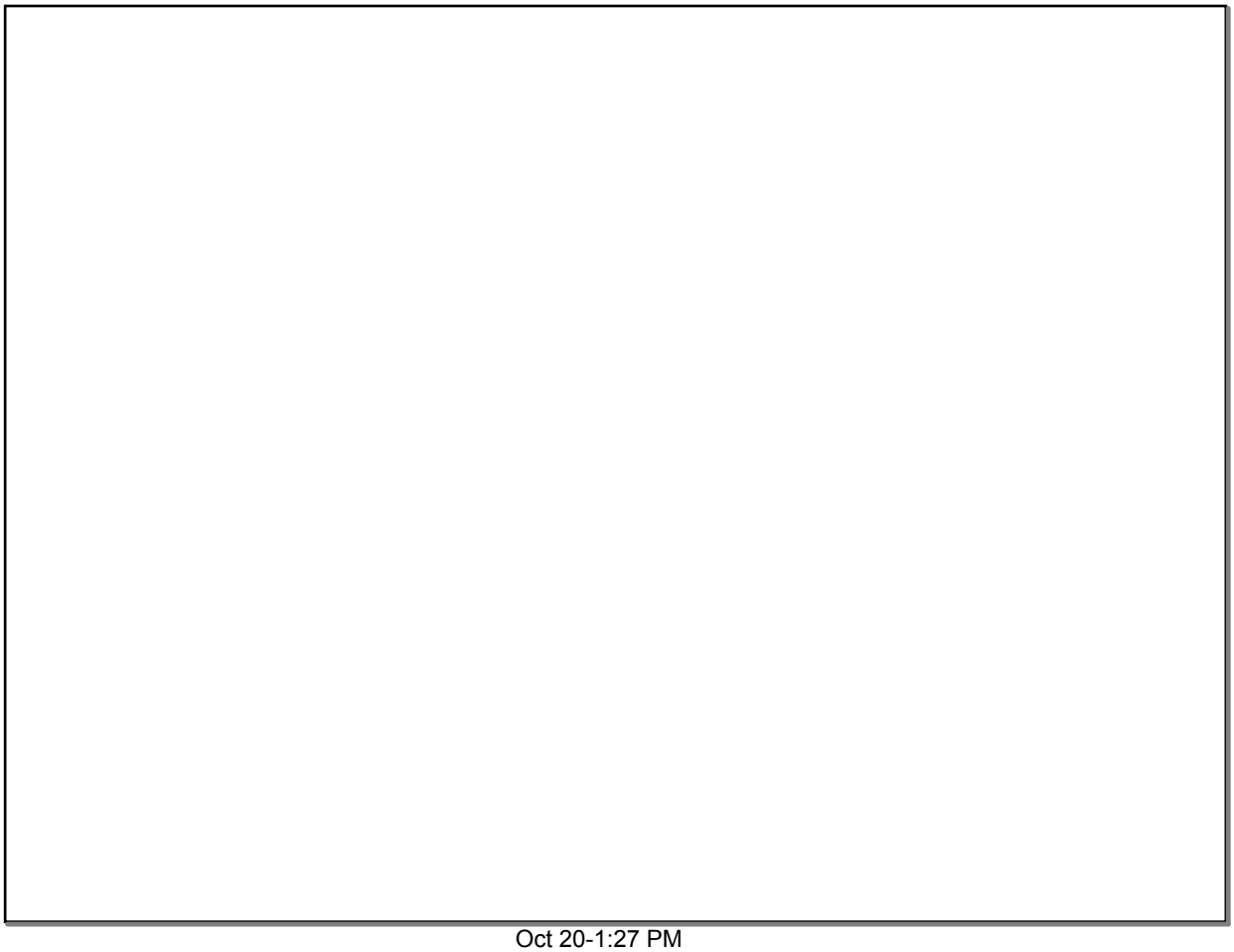
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#2. $f(x) = \begin{cases} 3x+2, & x<1 \\ 2ax^2+bx-4, & 1 \le x < 3 \\ ax^2+b, & x \ge 3 \end{cases}$

$\lim_{x\to 1^-} 3x+2 = 5$ $\quad \lim_{x\to 1^+} 2ax^2+bx-4 = 2a+b-4$ $\quad f(1) =$

$\therefore 2a+b-4 = 5$

$\boxed{2a+b=9}$

$\lim_{x\to 3^-} 2ax^2+bx-4 = 18a+3b-4$ $\quad \lim_{x\to 3^+} ax^2+b = 9a+b$

$\therefore 18a+3b-4 = 9a+b$

$9a+2b=4$

$\therefore \quad 9a+2b=4$

$2a+b=9 \xrightarrow{\times -2} \quad 9a+2b=4, \quad -4a-2b=-18$

$5a=-14$

$\boxed{a=-\frac{14}{5}}$

$\therefore 2\left(-\frac{14}{5}\right)+b=9$

$-\frac{28}{5}+b=9$

$b=9+\frac{28}{5}$

$b=\frac{45}{5}+\frac{28}{5}$

$\boxed{b=\frac{73}{5}}$

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Pg 44

#11 - #28, 38, 43

Pg 55

#31, 34

Pg 68

#13, 19, 27

Pg 72 #22-32

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$$\lim_{x\to 5} \frac{x^2-6x+5}{x-5}$$

$$= \lim_{x\to 5} \frac{(x-5)(x-1)}{(x-5)}$$

$$= \lim_{x\to 5} x-1$$

$$= 4$$

$$\lim_{x\to 5} \frac{x}{x-5}$$

$$\lim_{x\to 5^+} \quad \frac{+}{+} = +\infty$$

$$\lim_{x\to 5^-} \quad \frac{+}{-} = -\infty$$

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Oct 20-2:55 PM