Good afternoon: please sit in the same groups as Friday
with group work

You will have ~6 minutes to finish the posters
Once finished, please lay them flat on your tables
We will then do our gallery walk

Reminders
tutoring tomorrow 4-5p
first assess: Monday

Another U-Sub Prob

Notes

$$\int \frac{5x}{(x-1)^5}\,dx$$

$$\int 5x\cdot(x-1)^{-5}\,dx$$

want: 1 ∴

Let $u = x-1$ → $x = u+1$

$\frac{du}{dx} = 1$ → $du = dx$

$$\int 5(u+1)(u)^{-5}\,du$$

$$5\int (u+1)u^{-5}\,du$$

$$5\int u^{-4}+u^{-5}\,du$$

$$5\left[\frac{u^{-3}}{-3}+\frac{u^{-4}}{-4}+C\right]$$

$$-\frac{5}{3}u^{-3}-\frac{5}{4}u^{-4}+C$$

$$-\frac{5}{3u^3}-\frac{5}{4u^4}+C$$

$$\boxed{-\frac{5}{3(x-1)^3}-\frac{5}{4(x-1)^4}+C}$$

More bonus features

$$\int 5x(x+4)^{1/2}dx$$

$$Let\ u = x+4 \Rightarrow u-4 = x$$

$$\Downarrow$$

$$\frac{du}{dx} = 1 \Rightarrow du = dx$$

$$\int 5(u-4)(u)^{1/2}dx$$

$$5\int u^{3/2} - 4u^{1/2}du$$

$$5[\frac{u^{5/2}}{\frac{5}{2}} - 4\frac{u^{\frac{3}{2}}}{\frac{3}{2}} + C]$$

$$5[\frac{2}{5}u^{\frac{5}{2}} - \frac{8}{3}u^{\frac{3}{2}} + C]$$

$$2u^{\frac{5}{2}} + \frac{40}{3}u^{\frac{3}{2}} + C$$

$$Sub\ back\ in\ u = x+4$$

$$2(x+4)^{\frac{5}{2}} - \frac{40}{3}(x+4)^{\frac{3}{2}} + C$$

$$2\sqrt{(x+4)^5} - \frac{40}{3}\sqrt{(x+4)^3} + C$$

HW:

do #1-8 on the mini handout
don't attempt to do work on it!!! do it in notebooks or loose leaf

final answers at mcalc.weebly.com