

Math 1432

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Office Hours:

Mondays 1-2pm,
Fridays noon-1pm
(also available by appointment)

Class webpage:

<http://www.math.uh.edu/~bekki/Math1432.html>

Today we will work many different integral problems.
Before coming to class take time to identify the technique you think should be used on each.

Popper 14

For the following problems, answer A, B or C to identify the type of integration we should use to solve.

1. $\int \frac{dx}{17+x^2}$

2. $\int \frac{\ln x}{x} dx$

3. $\int \frac{1}{11+6x^2} dx$

4. $\int \frac{(\ln x)^5}{x} dx$

5. $\int \frac{2}{27+x^2} dx$

6. $\int \frac{3x}{13+x^4} dx$

7. $\int \frac{3x}{13+x^2} dx$

8. $\int \frac{3+x^4}{15x+x^5} dx$

9. $\int \frac{3x}{(13+x^2)^2} dx$

Now let's work some out...

$$\int \frac{dx}{17 + x^2}$$

$$\int \frac{\ln x}{x} dx$$

$$\int \frac{1}{11+6x^2} dx$$

$$\int \frac{(\ln x)^5}{x} dx$$

$$\int \frac{2}{27 + x^2} dx$$

$$\int \frac{3x}{13+x^4} dx$$

$$\int \frac{3x}{13+x^2} dx$$

$$\int \frac{3 + x^4}{15x + x^5} dx$$

$$\int \frac{3x}{(13+x^2)^2} dx$$

Popper 14

For the following problems, answer A, B, C, D or E to identify the technique we should use to solve each integral.

10. $\int \frac{x^2 + 2x + 7}{(x-1)^2(x^2 + 4)} dx$

11. $\int x \ln x dx$

12. $\int \sec^4(2x) dx$

13. $\int \frac{1}{x^2 \sqrt{4+x^2}} dx$

14. $\int \sec^3(2x) dx$

15. $\int \frac{1}{x\sqrt{4-x^2}} dx$

16. $\int \frac{11x - 73}{x^2 - 11x + 24} dx$

$$\int \frac{x^2 + 2x + 7}{(x - 1)^2(x^2 + 4)} dx$$

$$\int x \ln x \, dx$$

$$\int \sec^4(2x) dx$$

$$\int \frac{1}{x^2 \sqrt{4+x^2}} dx$$

$$\int \frac{1}{x\sqrt{4-x^2}} dx$$