

MATH 2320 Test 1

Name: _____

No calculators, no phones, no electronics allowed.

1. Find the area bounded the three lines $y = x$, $y = 2x$ and $y = 12 - x$.

2. Find the volume when the region bounded the three lines $y = x$, $y = 0$ and $y = 10 - x$ is revolved about the y -axis.

3. Find the arclength of the curve $y = \frac{2}{3}x^{3/2}$ from $x = 0$ to $x = 4$.

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

5. $\int x \sin(2x) dx$

6. $\int \sin^2(4x) \cos^3(4x) dx$

$$7. \int \frac{1}{(4+x^2)^{3/2}} dx$$

8. $\int \frac{3x^2 + 5x + 4}{(x + 1)(x^2 + 1)} dx$

9. $\int_1^\infty \frac{1}{x^{3/2}} dx$