

Calculus — Problem Set 29

2. $dy = -6x^{-3}dx + 2\cos x dx + 2e^x dx$

4. $dy = \frac{1}{3}t^{-\frac{2}{3}}dt$

6. $y = \frac{1}{4}x + 1$

8. $-\cos(3.5) = -.9365$

10. $\frac{2 \tan A}{1 - \tan^2 A}$
 $-\frac{8}{15}$

12. $\frac{7\pi}{24}, \frac{11\pi}{24}, \frac{19\pi}{24}, \frac{23\pi}{24}$

14. $y = 1 + \sqrt{\frac{9}{4}x^2 - 9x + 18}$

$y = 1 - \sqrt{\frac{9}{4}x^2 - 9x + 18}$

16. $-\frac{2}{5}$

18. a) $\sin^{-1} \frac{1}{2} = \frac{\pi}{6}$

b) $x = \frac{\pi}{6}, \frac{5\pi}{6}$

20.

22. 2.3219

24. $\sqrt{a^2 + b^2}$ = length of hypotenuse

$\frac{1}{2} \sqrt{a^2 + b^2}$ = length of median, therefore length of median =

$\frac{1}{2}$ length of hypotenuse