Calculus A **Review 20 Answers**

11. A) f(x) is not continuous at x = 3. B) 2 C) 1

12. A) $\sin(A+B) = \sin A\cos B + \cos A\sin B$

$\cos(A+B) = \cos A\cos B - \sin A\sin B$

$\tan(A+B) = \dfrac{\tan A + \tan B}{1 - \tan A \tan B}$

B) $\sin 2A = 2\sin A\cos A$

$\cos 2A = \cos^2 A - \sin^2 A$

$\tan 2A = \dfrac{2\tan A}{1 - \tan^2 A}$

C) $\dfrac{\sqrt{6}-\sqrt{2}}{4}$

D) $\sin^2 A = \dfrac{1-\cos 2A}{2}$

$\cos^2 A = \dfrac{1+\cos 2A}{2}$

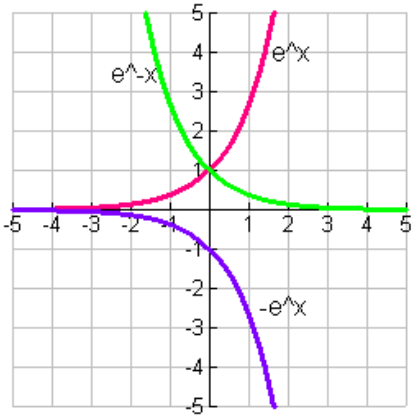
$\tan^2 A = \dfrac{1-\cos 2A}{1+\cos 2A}$

E) $\sin\left(\dfrac{x}{2}\right) = \pm\sqrt{\dfrac{1-\cos x}{2}}$

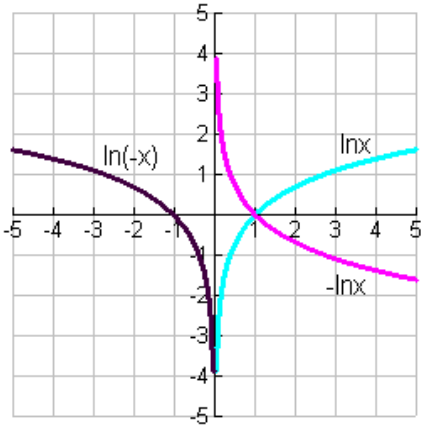
$\cos\left(\dfrac{x}{2}\right) = \pm\sqrt{\dfrac{1+\cos x}{2}}$

$\tan\left(\dfrac{x}{2}\right) = \pm\sqrt{\dfrac{1-\cos x}{1+\cos x}}$

F)



G)

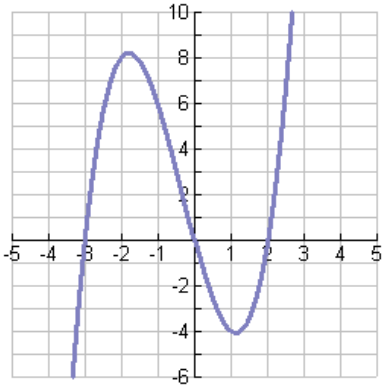


13. A) $x = \dfrac{\pi}{6}, \dfrac{11\pi}{6}$ B) $x = \dfrac{7\pi}{6}, \dfrac{11\pi}{6}, \dfrac{\pi}{2}$

14. A) 12 B) D.N.E. C) 1

D) $y = -\dfrac{6}{5}x + \dfrac{17}{10}$ E) $(x-1)^2 + (y+2)^2 = 34$

15. A)



B) $(-3,0),(2,\infty)$

C) $(-1.7863, 1.1196)$

D) $x = -1.7863, 1.1196$

E) $m \approx 1, m = .866$

16. A) $x = 1$ B) $x = \dfrac{\log\left(8^4 7^3\right)}{\log\left(\dfrac{8^3}{7^2}\right)} \approx 6.0326$

17. A) 0 B) ∞ C) $-\dfrac{4}{5}$ D) D.N.E. E) ∞

18. A) $(f \circ g)(x) = \sqrt{2x+3}$ B) $D = \left\{ x \in \mathbb{R} \mid x \geq -\dfrac{3}{2} \right\}$

C) $R = \{ y \in \mathbb{R} \mid y \geq 0 \}$

19. A) $4x - 3$ B) .8776

20. A) 1.8416 B) 8.4155 C) $y_1 = \sqrt{9 - x^2}$ and $y_2 = -\sqrt{9 - x^2}$

D) $y_1 = \sqrt{10 - 2x^2}$ and $y_2 = -\sqrt{10 - 2x^2}$