

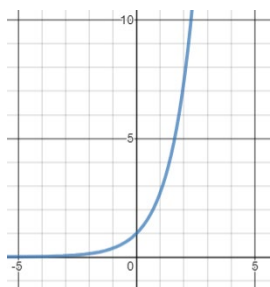
Gateway Test Answers

Algebra - Test 1A

1. $\frac{3x-2}{\sqrt{x-1}}$
2. $\frac{1}{y(y-k)}$
3. $x^3 + \frac{4}{\sqrt{3}}x^{3/2} + \frac{4}{3}$
4. $\frac{1 \pm \sqrt{21}}{2}$
5. -8
6. $5x - 2y - 17 = 0$
7. $\frac{1-y}{x-1}$
8. $(x+1)^2 + (y-3)^2 = \frac{9}{2}$, center $(-1, 3)$, radius $\frac{3}{\sqrt{2}}$
9. $\frac{5}{3}$
10. $\left[-\frac{3}{2}, \infty\right)$

Exponential and Logarithmic Functions - Test 2A

1. $\frac{15}{7}$
2. $\ln 3$
3. $\frac{3}{4}$
4. 3
5. 5



6. $(e^{-2}, 0)$
7. $\ln(4x^5 - x - 1) + \frac{1}{2}\ln(x-7) - 3\ln(x^2+1)$
8. $\left(-\frac{2}{3}, \infty\right)$
9. $\emptyset$, because $\frac{e}{1-e}$ is extraneous
10. $\left(-\frac{2}{3}, \infty\right)$

Trigonometry - Test 3A

1. $-\frac{13}{12}$
2. $0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}$
3. $2|\sec \theta|$
4. $\cos \theta$
5. $\frac{\sqrt{15}}{8}$
6. $0, \frac{2\pi}{3}, \pi, \frac{4\pi}{3}$
7. $\sqrt{\frac{2}{3}}$
8. $r = -3\cos \theta$
9. $\frac{\sqrt{9-x^2}}{x}$
10. $-\frac{\pi}{6}$