

Answers for class prep quiz on sections 1.4–1.5, Stewart's Calculus (8th ed.)

1. **Answer:** (a). Graph (a) is the only graph with no x -intercepts. The fact that the graphed function is decreasing means that $a < 1$ (exponential decay).
2. **Answer:** (c). If we graph all four functions, we see that only (c) is one-to-one, with its standard domain of $x \geq 0$. (Try applying the horizontal line test to each.)
3. **Answer:** (d). Expressions (a), (b), and (c) are logs of a product, a power, and a quotient, respectively. None of the usual rules apply to (d).
4. **Answer:** (a). Note that by definition, $\sin^{-1} x$, or $\arcsin x$, is the angle θ between $-\pi/2$ and $+\pi/2$ such that $\sin \theta = x$. Choice (a) is the only angle between $-\pi/2$ and $+\pi/2$ whose tangent is $\frac{1}{\sqrt{3}}$.