

D 9. Suppose we have some angle whose name is  $\alpha$  and our good friend  $\alpha$  is in standard position and  $\alpha$ 's terminal side is in the first quadrant. Suppose further that we know that  $\cos(\alpha) = \frac{1}{3} = \frac{x}{r}$ .

Use your trigonometric talents to their fullest to determine  $\sin(\alpha)$ .

- A.  $-\frac{\sqrt{8}}{3}$  B.  $\frac{3}{1}$  C.  $\frac{1}{\sqrt{8}}$  D.  $\frac{\sqrt{8}}{3}$  E.  $-\frac{3\sqrt{8}}{8}$

$$\sin \alpha = \frac{y}{r} = \frac{\sqrt{8}}{3} = \frac{2\sqrt{2}}{3}$$

C 10. Suppose  $\theta$  is a positive angle, and suppose it is the smallest possible positive angle which can be such that  $\sec(\theta) = 2$ . What is the measure of  $\theta$ ?

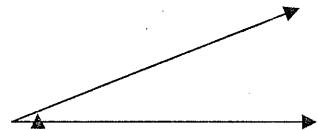
- A. 30 B. 45 C. 60 D. 90 E. 120

$$\sec \theta = 2 = \frac{2}{1} = \frac{r}{x} \Rightarrow$$



D/E 11. Consider the angle shown at the right. Its measure in Radians would be closest to:

- A.  $\frac{2\pi}{3}$  B.  $\frac{\pi}{2}$  C.  $\frac{\pi}{3}$  D.  $\frac{\pi}{4}$  E.  $\frac{\pi}{6}$



E 12. Consider the formula  $y = A \sin B(x + C) + D$ . Each of the letters A, B, C, and D affect one aspect of the resulting graph. Which of the following **best** describes B:

- A. B states the amplitude.  
 B.  $|B|$  determines the amplitude.  
 C.  $|B|$  states the period of the graph.  
 D. B determines the horizontal shift of the graph.  
 E.  $|B|$  affects period but doesn't directly state what the period is.