

**F.TF.C.8: Finding the Terminal Side of an Angle 2**

- 1 In which quadrant does  $\theta$  lie if  $\tan \theta < 0$  and  $\csc \theta > 0$ ?
  
- 2 If  $\sin A < 0$  and  $\cot A > 0$ , in which quadrant does the terminal side of  $\angle A$  lie?
  
- 3 In which quadrant are both tangent and cosecant negative?
  
- 4 If  $\sin x = -\frac{2}{3}$  and  $\tan x < 0$ , in which quadrant does  $\angle x$  terminate?
  
- 5 Natalia's teacher has given her the following information about angle  $\theta$ .
  - $\pi < \theta < 2\pi$
  - $\cos \theta = \frac{\sqrt{3}}{4}$

Explain how Natalia can determine if the value of  $\tan \theta$  is positive or negative.

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### Answer Section

1 ANS:  
II

REF: 089409siii

2 ANS:  
III

REF: 060006siii

3 ANS:  
IV

REF: 010107siii

4 ANS:  
IV

REF: 018705siii

5 ANS:  
 $\pi < \theta < 2\pi \rightarrow$  Quadrant III or IV  $\theta$  must be in Quadrant IV, where  $\tan \theta$  is negative.

$$\cos \theta = \frac{\sqrt{3}}{4} \rightarrow \text{Quadrant I or IV}$$

REF: 012332aii