Answer Key

Practice B

1. $\sin \theta = -\dfrac{9\sqrt{97}}{97}$; $\cos \theta = \dfrac{4\sqrt{97}}{97}$;

$\tan \theta = -\dfrac{9}{4}$; $\cot \theta = -\dfrac{4}{9}$; $\sec \theta = \dfrac{\sqrt{97}}{4}$;

$\csc \theta = -\dfrac{\sqrt{97}}{9}$

2. $\sin \theta = \dfrac{5\sqrt{41}}{41}$; $\cos \theta = -\dfrac{4\sqrt{41}}{41}$;

$\tan \theta = -\dfrac{5}{4}$; $\cot \theta = -\dfrac{4}{5}$; $\sec \theta = -\dfrac{\sqrt{41}}{4}$;

$\csc \theta = \dfrac{\sqrt{41}}{5}$

3. $\sin \theta = \dfrac{3}{5}$; $\cos \theta = \dfrac{4}{5}$; $\tan \theta = \dfrac{3}{4}$;

$\cot \theta = \dfrac{4}{3}$; $\sec \theta = \dfrac{5}{4}$; $\csc \theta = \dfrac{5}{3}$

4. $\sin \theta = -\dfrac{8\sqrt{89}}{89}$; $\cos \theta = -\dfrac{5\sqrt{89}}{89}$;

$\tan \theta = \dfrac{8}{5}$; $\cot \theta = \dfrac{5}{8}$; $\sec \theta = -\dfrac{\sqrt{89}}{5}$;

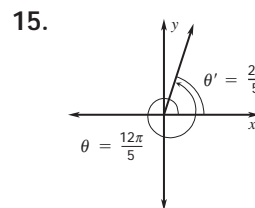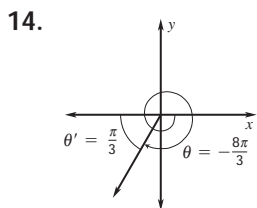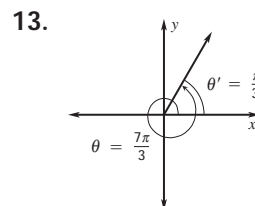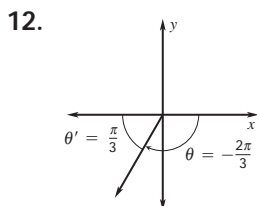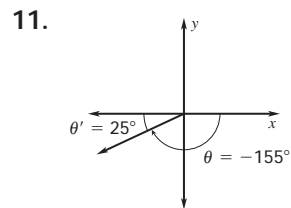$\csc \theta = -\dfrac{\sqrt{89}}{8}$

5. $\sin \theta = 1$; $\cos \theta = 0$; $\tan \theta = $ undefined;
$\cot \theta = 0$; $\sec \theta = $ undefined; $\csc \theta = 1$

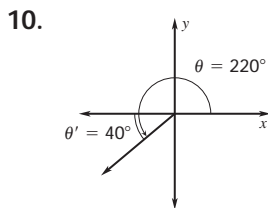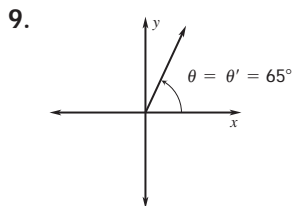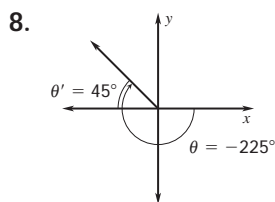**6.** $\sin \theta = -1$; $\cos \theta = 0$; $\tan \theta = $ undefined;
$\cot \theta = 0$; $\sec \theta = $ undefined; $\csc \theta = -1$

7. $\sin \theta = 0$; $\cos \theta = -1$; $\tan \theta = 0$;

$\cot \theta = $ undefined;
$\sec \theta = -1$; $\csc \theta = $ undefined

8.

9.

10.

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14.

15.

16. -1 **17.** $-\dfrac{\sqrt{3}}{2}$ **18.** $-\dfrac{\sqrt{3}}{2}$ **19.** $\sqrt{2}$

20. $\sqrt{3}$ **21.** $\dfrac{2\sqrt{3}}{3}$ **22.** $\sqrt{3}$ **23.** $-\dfrac{\sqrt{2}}{2}$

24. 0.3090 **25.** 1.1434 **26.** -0.5

27. -1.0515 **28.** The terminal side of a $10°$ angle would be in the first quadrant where the sine function is positive. Your friend's calculator was in radian mode. **29.** 307.75 ft; 312.5 ft; 307.75 ft