Trigonometric Identities

Name_____

Date_____

Use identities to find the value of each expression.

1) Find cot θ and tan θ
if csc $\theta = -2$ and sec $\theta > 0$.

2) Find cos θ and tan θ
if sec $\theta = -2$ and csc $\theta < 0$.

3) Find csc θ and cos θ
if cot $\theta = -\frac{8}{5}$ and sin $\theta > 0$.

4) Find cos θ and tan θ
if cot $\theta = -4$ and cos $\theta < 0$.

5) Find sin θ and cot θ
if tan $\theta = \frac{1}{2}$ and sin $\theta > 0$.

6) Find cot θ and sin θ
if csc $\theta = -\frac{8}{5}$ and tan $\theta < 0$.

7) Find cos θ and tan θ
if csc $\theta = \frac{7}{4}$ and cot $\theta < 0$.

8) Find cos θ and csc θ
if tan $\theta = -\frac{4}{5}$ and sec $\theta < 0$.

9) Find $\cos\theta$ and $\sin\theta$ if $\csc\theta = 5$ and $\tan\theta > 0$.

10) Find $\sin\theta$ and $\tan\theta$ if $\csc\theta = \frac{5}{4}$ and $\sec\theta < 0$.

11) Find $\cos\theta$ and $\tan\theta$ if $\sec\theta = 3$ and $\sin\theta < 0$.

12) Find $\cos\theta$ and $\sec\theta$ if $\tan\theta = \frac{5}{8}$ and $\csc\theta > 0$.

13) Find $\sec\theta$ and $\cos\theta$ if $\sin\theta = \frac{1}{2}$ and $\cos\theta < 0$.

14) Find $\cos\theta$ and $\tan\theta$ if $\sin\theta = \frac{5}{7}$ and $\cot\theta > 0$.

15) Find $\cos\theta$ and $\cot\theta$ if $\tan\theta = -\frac{2}{3}$ and $\cos\theta < 0$.

16) Find $\sin\theta$ and $\csc\theta$ if $\sec\theta = -\frac{3}{2}$ and $\csc\theta > 0$.

Answers to Trigonometric Identities

1) $-\sqrt{3}$ and $-\frac{\sqrt{3}}{3}$

2) $-\frac{1}{2}$ and $\sqrt{3}$

3) $\frac{\sqrt{89}}{5}$ and $-\frac{8\sqrt{89}}{89}$

4) $-\frac{4\sqrt{17}}{17}$ and $-\frac{1}{4}$

5) $\frac{\sqrt{5}}{5}$ and 2

6) $-\frac{\sqrt{39}}{5}$ and $-\frac{5}{8}$

7) $-\frac{\sqrt{33}}{7}$ and $-\frac{4\sqrt{33}}{33}$

8) $-\frac{5\sqrt{41}}{41}$ and $\frac{\sqrt{41}}{4}$

9) $\frac{2\sqrt{6}}{5}$ and $\frac{1}{5}$

10) $\frac{4}{5}$ and $-\frac{4}{3}$

11) $\frac{1}{3}$ and $-2\sqrt{2}$

12) $\frac{8\sqrt{89}}{89}$ and $\frac{\sqrt{89}}{8}$

13) $-\frac{2\sqrt{3}}{3}$ and $-\frac{\sqrt{3}}{2}$

14) $\frac{2\sqrt{6}}{7}$ and $\frac{5\sqrt{6}}{12}$

15) $-\frac{3\sqrt{13}}{13}$ and $-\frac{3}{2}$

16) $\frac{\sqrt{5}}{3}$ and $\frac{3\sqrt{5}}{5}$

