Trigonometric Identities

Name_____

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Date_____

Use identities to find the value of each expression.

1) Find tan θ and sec θ
if cot $\theta = \frac{4}{5}$ and sin $\theta > 0$.

2) Find sin θ and cos θ
if tan $\theta = -\frac{3}{2}$ and sin $\theta > 0$.

3) Find sec θ and tan θ
if sin $\theta = -\frac{1}{3}$ and sec $\theta < 0$.

4) Find sin θ and sec θ
if cos $\theta = \frac{1}{3}$ and csc $\theta < 0$.

5) Find tan θ and cos θ
if sin $\theta = \frac{4}{5}$ and sec $\theta > 0$.

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

7) Find sin θ and cot θ
if csc $\theta = -\frac{3}{2}$ and cot $\theta > 0$.

8) Find cot θ and sec θ
if cos $\theta = -\frac{4}{7}$ and csc $\theta > 0$.

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9) Find $\sin\theta$ and $\cot\theta$
if $\cos\theta = \frac{1}{3}$ and $\csc\theta < 0$.

10) Find $\cos\theta$ and $\csc\theta$
if $\sin\theta = \frac{1}{3}$ and $\cos\theta < 0$.

11) Find $\cos\theta$ and $\cot\theta$
if $\sin\theta = \frac{3}{4}$ and $\cos\theta < 0$.

12) Find $\sin\theta$ and $\cot\theta$
if $\cos\theta = \frac{4}{5}$ and $\cot\theta > 0$.

13) Find $\tan\theta$ and $\cos\theta$
if $\sec\theta = -\frac{5}{3}$ and $\tan\theta < 0$.

14) Find $\cos\theta$ and $\tan\theta$
if $\sec\theta = \frac{9}{5}$ and $\cot\theta > 0$.

15) Find $\sin\theta$ and $\tan\theta$
if $\cos\theta = -\frac{1}{5}$ and $\sin\theta > 0$.

16) Find $\cos\theta$ and $\sec\theta$
if $\cot\theta = -3$ and $\sin\theta > 0$.

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Answers to Trigonometric Identities

1) $\frac{5}{4}$ and $\frac{\sqrt{41}}{4}$

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

3) $-\frac{3\sqrt{2}}{4}$ and $\frac{\sqrt{2}}{4}$

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

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

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

7) $-\frac{2}{3}$ and $\frac{\sqrt{5}}{2}$

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

9) $-\frac{2\sqrt{2}}{3}$ and $-\frac{\sqrt{2}}{4}$

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

11) $-\frac{\sqrt{7}}{4}$ and $-\frac{\sqrt{7}}{3}$

12) $\frac{3}{5}$ and $\frac{4}{3}$

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

14) $\frac{5}{9}$ and $\frac{2\sqrt{14}}{5}$

15) $\frac{2\sqrt{6}}{5}$ and $-2\sqrt{6}$

16) $-\frac{3\sqrt{10}}{10}$ and $-\frac{\sqrt{10}}{3}$

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