Trigonometry Worksheet 5 - Answers

Use the following information for questions 1-6. Angles α and β are the two acute angles in a right triangle.

1. How are $\sin\alpha$ and $\cos\beta$ related?

   They are equal.

2. How are $\tan\alpha$ and $\cot\beta$ related?

   They are equal.

3. How are $\sec\alpha$ and $\csc\beta$ related?

   They are equal.

4. Simplify $\frac{\sin\alpha+\cos\beta}{\cos\alpha}$.

   $2\tan\alpha$

5. Simplify $\frac{\cos\alpha}{\cos\alpha+\cos\beta}$.

   $1+\cot\alpha$

6. Simplify $\frac{\sin\alpha}{\sin\beta}\times\frac{\cos\beta}{\cos\alpha}$.

   $\tan\alpha$

7. Simplify $\frac{\cos^4\alpha-sin^4\alpha}{2\cos^2\alpha-1}$

   1

8. Simplify (but do not solve) $\sin 72^{c}irc + \cos 18°$.

   $2\sin 72°$.

9. Simplify $\frac{\tan 20°+\cot 70°}{tan20°}$.

   2

10. Find m if $\sin(18m-12)=\cos(7m+2)$.

    $m=4$