Reduce to a single term. Verify your claim. Select from this list.

1. $\frac{\cos^2\theta}{\sin\theta}+\frac{1}{\csc\theta}$
2. $\frac{\sin^3\theta}{\cos\theta}+\sin\theta\cos\theta$
3. $\frac{1-\cot(-\theta)}{1-\tan(-\theta)}$
4. $\sin\theta\sec\theta$
5. $\tan\theta\cos\theta$
6. $\csc(-\theta)\tan(-\theta)$
7. $\tan\theta\sin\theta+\cos\theta$
8. $\frac{\sin\theta}{1-\cos\theta}-\frac{\sin\theta}{1+\cos\theta}$
9. $\frac{1-\cos\theta}{\sec\theta-1}$
10. $\sin\theta+\frac{\cot^2\theta}{\csc\theta}$
11. $\frac{1}{1-\cos\theta}+\frac{1}{1+\cos\theta}$

A. $\sin\theta$

B. $\cos\theta$

C. $\tan\theta$

D. $\csc\theta$

E. $\sec\theta$

F. $\cot\theta$

G. $2\cot\theta$

H. $2\cot^2\theta$

I. $2\csc\theta$

J. $2\csc^2\theta$

K. None of these

Reduce to a single term. Verify your claim. Select from this list:

A. $\sin\theta$

B. $\cos\theta$

C. $\tan\theta$

D. $\csc\theta$

E. $\sec\theta$

F. $\cot\theta$

G. $2\cot\theta$

H. $2\cot^2\theta$

I. $2\csc\theta$

J. $2\csc^2\theta$

K. None of these

1. $\dfrac{\cos^2\theta}{\sin\theta} + \dfrac{1}{\csc\theta}$

2. $\dfrac{\sin^3\theta}{\cos\theta} + \sin\theta\cos\theta$

3. $\dfrac{1-\cot(-\theta)}{1-\tan(-\theta)}$

4. $\sin\theta\sec\theta$

5. $\tan\theta\cos\theta$

6. $\csc(-\theta)\tan(-\theta)$

7. $\tan\theta\sin\theta + \cos\theta$

8. $\dfrac{\sin\theta}{1-\cos\theta} - \dfrac{\sin\theta}{1+\cos\theta}$

9. $\dfrac{1-\cos\theta}{\sec\theta - 1}$

10. $\sin\theta + \dfrac{\cot^2\theta}{\csc\theta}$

11. $\dfrac{1}{1-\cos\theta} + \dfrac{1}{1+\cos\theta}$

1. $\dfrac{\cos^2\theta}{\sin\theta} + \dfrac{1}{\csc\theta} = \dfrac{\cos^2\theta}{\sin\theta} + \sin\theta = \dfrac{\cos^2\theta}{\sin\theta} + \dfrac{\sin\theta\cdot\sin\theta}{\sin\theta} = \dfrac{\cos^2\theta+\sin^2\theta}{\sin\theta} = \dfrac{1}{\sin\theta} = \csc\theta$ // (D)

2. $\dfrac{\sin^3\theta}{\cos\theta} + \sin\theta\cos\theta = \dfrac{\sin^3\theta}{\cos\theta} + \dfrac{\sin\theta\cos^2\theta}{\cos\theta} = \dfrac{\sin\theta(\sin^2\theta+\cos^2\theta)}{\cos\theta} = \dfrac{\sin\theta}{\cos\theta} = \tan\theta$ // (C)

3. $\dfrac{1-\cot(-\theta)}{1-\tan(-\theta)} = \dfrac{1+\cot\theta}{1+\tan\theta} = \dfrac{(1+\cot\theta)}{(1+\tan\theta)}\cdot\dfrac{\sin\theta\cos\theta}{\sin\theta\cos\theta} = \dfrac{\sin\theta\cos\theta + \frac{\cos\theta}{\sin\theta}\cdot\sin\theta\cos\theta}{\sin\theta\cos\theta + \frac{\sin\theta}{\cos\theta}\cdot\sin\theta\cos\theta} = \dfrac{\sin\theta\cos\theta+\cos^2\theta}{\sin\theta\cos\theta+\sin^2\theta} = \dfrac{\cos\theta(\sin\theta+\cos\theta)}{\sin\theta(\cos\theta+\sin\theta)} = \cot\theta$ // (F)

4. $\sin\theta\sec\theta = \sin\theta\cdot\dfrac{1}{\cos\theta} = \tan\theta$ // (C)

5. $\tan\theta\cos\theta = \dfrac{\sin\theta}{\cos\theta}\cdot\cos\theta = \sin\theta$ // (A)

6. $\csc(-\theta)\tan(-\theta) = \dfrac{1}{\sin(-\theta)}\cdot\dfrac{\sin(-\theta)}{\cos(-\theta)} = \dfrac{1}{\cos(-\theta)} = \dfrac{1}{\cos\theta} = \sec\theta$ // (E)

7. $\tan\theta\sin\theta + \cos\theta = \dfrac{\sin\theta}{\cos\theta}\cdot\sin\theta + \cos\theta = \dfrac{\sin^2\theta}{\cos\theta} + \dfrac{\cos\theta\cdot\cos\theta}{\cos\theta} = \dfrac{\sin^2\theta+\cos^2\theta}{\cos\theta} = \dfrac{1}{\cos\theta} = \sec\theta$ // (E)

8. $\dfrac{\sin\theta}{1-\cos\theta} - \dfrac{\sin\theta}{1+\cos\theta} = \dfrac{\sin\theta}{(1-\cos\theta)}\cdot\dfrac{(1+\cos\theta)}{(1+\cos\theta)} - \dfrac{\sin\theta}{(1+\cos\theta)}\cdot\dfrac{(1-\cos\theta)}{(1-\cos\theta)} = \dfrac{\sin\theta(1+\cos\theta)-\sin\theta(1-\cos\theta)}{(1+\cos\theta)(1-\cos\theta)} = \dfrac{\sin\theta(1+\cos\theta)-\sin\theta(1-\cos\theta)}{1-\cos^2\theta} = \dfrac{\sin\theta(1+\cos\theta)-\sin\theta(1-\cos\theta)}{\sin^2\theta} = \dfrac{1+\cos\theta-(1-\cos\theta)}{\sin\theta}$

$= \dfrac{1+\cos\theta-1+\cos\theta}{\sin\theta} = \dfrac{2\cos\theta}{\sin\theta} = 2\cot\theta$ // (G)

9. $\dfrac{1-\cos\theta}{\sec\theta-1} = \dfrac{1-\cos\theta}{\sec\theta-1}\cdot\dfrac{\cos\theta}{\cos\theta} = \dfrac{(1-\cos\theta)\cos\theta}{(1-\cos\theta)} = \cos\theta$ // (B)

10. $\sin\theta + \dfrac{\cot^2\theta}{\csc\theta} = \sin\theta + \dfrac{\cos^2\theta/\sin^2\theta}{1/\sin\theta} = \sin\theta + \left(\dfrac{\cos^2\theta}{\sin^2\theta}\right)\cdot\dfrac{\left(\sin^2\theta\right)}{\left(\frac{1}{\sin\theta}\right)\left(\sin^2\theta\right)} = \sin\theta + \dfrac{\cos^2\theta}{\sin\theta} = \dfrac{\sin^2\theta+\cos^2\theta}{\sin\theta} = \csc\theta$ // (D)

11. $\dfrac{1}{1-\cos\theta} + \dfrac{1}{1+\cos\theta} = \dfrac{1}{(1-\cos\theta)}\cdot\dfrac{(1+\cos\theta)}{(1+\cos\theta)} + \dfrac{1}{(1+\cos\theta)}\cdot\dfrac{(1-\cos\theta)}{(1-\cos\theta)} = \dfrac{1+\cos\theta+1-\cos\theta}{(1-\cos\theta)(1+\cos\theta)} = \dfrac{2}{\sin^2\theta} = 2\csc^2\theta$ // (J)