EVENS | 7.1 Notes

(2) $\cos\theta\left[\sec\theta - \cos(-\theta)\right] = \sin^2\theta$

$\cos\theta\sec\theta - \cos\theta\cos(-\theta) = \sin^2\theta$

$\frac{\cos\theta}{1}\cdot\overset{(A)}{\frac{1}{\cos\theta}} - \cos\theta\cos(-\theta) = \sin^2\theta$

$\frac{\cos\theta}{\cos\theta} - \cos\theta\cos(-\theta) = \sin^2\theta$

$1 - \cos(\theta)\cos(-\theta) = \sin^2\theta$

$1 - \cos(\theta)\overset{(B)}{\cos(\theta)} = \sin^2\theta$

$1 - \cos^2\theta = \sin^2\theta$

(C) $\sin^2\theta = \sin^2\theta$

(A) Reciprocal Id

(B) Even/odd Id

(C) Pyth Id

7.1 Notes

(4) $\csc\theta + \sin(-\theta) = \cos\theta\cot\theta$

(A) $\frac{1}{\sin\theta} + \sin(-\theta) =$

$\frac{1}{\sin\theta} + -\sin\theta$ (B) $=$

$\frac{1}{\sin\theta} - \frac{\sin\theta}{1} =$

$\frac{1}{\sin\theta} - \frac{\sin\theta}{1}\cdot\frac{\sin\theta}{\sin\theta} =$

$\frac{1}{\sin\theta} - \frac{\sin^2\theta}{\sin\theta} =$

$\frac{1-\sin^2\theta}{\sin\theta} =$

(C) $\frac{\cos^2\theta}{\sin\theta} =$

$\frac{\cos\theta}{\sin\theta}\cdot\frac{\cos\theta}{1} =$

(D) $\cot\theta\cdot\cos\theta = \cot\theta\cos\theta$

(A) Reciprocal
(B) Even/odd
(C) Pythtd
(D) Quotient

(7.1) Notes Evens

(6) $\frac{1-\cos\theta}{\sin\theta} - \frac{\sin\theta}{1+\cos\theta} = 0$

$\frac{(1-\cos\theta)}{\sin\theta}\frac{(1+\cos\theta)}{(1+\cos\theta)} + \frac{-\sin\theta}{(1+\cos\theta)}\frac{(\sin\theta)}{(\sin\theta)} = 0$

(A) $\frac{1-\cos^2\theta}{(\sin\theta)(1+\cos\theta)} + \frac{-\sin^2\theta}{\sin\theta(1+\cos\theta)} = 0$

(B) $\frac{\sin^2\theta}{(\sin\theta)(1+\cos\theta} + \frac{-\sin^2\theta}{\sin\theta(1+\cos\theta)} = 0$

$\frac{\sin^2\theta - \sin^2\theta}{(\sin\theta)(1+\cos\theta)} = 0$

$\frac{0}{(\sin\theta)(1+\cos\theta} = 0$

$0 = 0$

(A) DOTS

(B) Pythtd

(7.1) Notes Even

(8) $\csc\theta(\csc\theta - \sin\theta) = \cot^2\theta$

$\csc^2\theta - \csc\theta\sin\theta = \cot^2\theta$

$\csc^2\theta - \csc\theta \cdot \frac{1}{\csc\theta} \overset{(A)}{=} \cot^2\theta$

$\csc^2\theta - \frac{\sin\theta}{\csc\theta} = \cot^2\theta$

$\csc^2\theta - 1 = \cot^2\theta$

(13) $\cot^2\theta = \cot^2\theta$

(A) Reciprocal Id

(B) Pythid

(7.1) Hwk evens

(2) $\dfrac{\csc\theta \sec\theta}{\tan\theta} = \cot\theta$

$\dfrac{\csc\theta}{1} \cdot \dfrac{\sec\theta}{1} \cdot \dfrac{1}{\tan\theta} = \cot\theta$

$\dfrac{\csc\theta}{1} \cdot \dfrac{1}{\csc\theta}^{(A)} \cdot \dfrac{1}{\tan\theta} = \cot\theta$

$\dfrac{\csc\theta}{\csc\theta} \cdot \dfrac{1}{\tan\theta} = \cot\theta$

$1 \cdot \dfrac{1}{\tan\theta} = \cot\theta$

$\cot\theta = \cot\theta$ (B)

(A) Reciprocal

(B) Reciprocal

(4) $\sin\theta + \cos\theta \cot\theta = \csc\theta$

$$\frac{\sin\theta}{1} + \frac{\cos\theta}{1} \cdot \frac{\cos\theta}{\sin\theta} \overset{(A)}{=} \csc\theta$$

$$\frac{\sin\theta}{1} + \frac{\cos^2\theta}{\sin\theta} = \csc\theta$$

$$\frac{\sin\theta}{\sin\theta}\frac{\sin\theta}{1} + \frac{\cos^2\theta}{\sin\theta} = \csc\theta$$

$$\frac{\sin^2\theta}{\sin\theta} + \frac{\cos^2\theta}{\sin\theta} = \csc\theta$$

$$\frac{\sin^2\theta + \cos^2\theta}{\sin\theta} = \csc\theta$$

(B) $\frac{1}{\sin\theta} = \csc\theta$

(C) $\boxed{\csc\theta = \csc\theta}$

(A) Quotient Id

(B) Pythn Id

(C) Reciprocal Id

(6) $\tan\theta + \cot\theta = \sec\theta \csc\theta$

(A) $\frac{\sin\theta}{\cos\theta} + \frac{\cot\theta}{1} = \sec\theta \csc\theta$

$\frac{\sin\theta}{\cos\theta} + \frac{\cos\theta}{\sin\theta}$ (B) $= \sec\theta \csc\theta$

$\frac{\sin\theta}{\cos\theta}\cdot\frac{\sin\theta}{\sin\theta} + \frac{\cos\theta}{\sin\theta}\cdot\frac{\cos\theta}{\cos\theta} = \sec\theta \csc\theta$

$\frac{\sin^2\theta}{\sin\theta\cos\theta} + \frac{\cos^2\theta}{\sin\theta\cos\theta} = \sec\theta \csc\theta$

$\frac{\sin^2\theta + \cos^2\theta}{\cos\theta \sin\theta} = \sec\theta \csc\theta$

(C) $\frac{1}{\cos\theta \sin\theta} = \sec\theta \csc\theta$

$\frac{1}{\cos\theta} \cdot \frac{1}{\sin\theta} = \sec\theta \csc\theta$

(D) $\sec\theta \cdot \frac{1}{\sin\theta} = \sec\theta \csc\theta$

(E) $\sec\theta \cdot \csc\theta = \sec\theta \csc\theta$

(A) Quotient
(B) Quotient
(C) Pythtd
(D) Reciprocal
(E) Reciprocal

HWK

⑧ $\dfrac{\sec\theta - \cos\theta}{\sec\theta} = \sin^2\theta$

$\dfrac{\sec\theta}{\sec\theta} - \dfrac{\cos\theta}{\sec\theta} = \sin^2\theta$

$1 - \dfrac{\cos\theta}{\sec\theta} = \sin^2\theta$

$1 - \dfrac{\cos\theta}{1} \cdot \dfrac{1}{\sec\theta} = \sin^2\theta$

$1 - \cos\theta \cdot \cos\theta \overset{(A)}{=} \sin^2\theta$

$1 - \cos^2\theta = \sin^2\theta$

$\boxed{\sin^2\theta \overset{(B)}{=} \sin^2\theta}$

(A) Recip. cos

(B) Pyth Id

(7.1) (10) HWK

$$2\cos^2\theta - 1 = 1 - 2\sin^2\theta$$

$$2[1-\sin^2\theta) - 1 = 1 - 2\sin^2\theta \quad (A)$$

$$2 - 2\sin^2\theta - 1 = 1 - 2\sin^2\theta$$

$$2 - 1 - 2\sin^2\theta = 1 - 2\sin^2\theta$$

$$\boxed{1 - 2\sin^2\theta = 1 - 2\sin^2\theta}$$

(A) Pythid

---

(10) Method 2

$$2\cos^2\theta - 1 = 1 - 2\sin^2\theta$$

$$= 1 - 2[1 - \cos^2\theta) \quad (A)$$

$$= 1 - 2 + 2\cos^2\theta$$

$$= -1 + 2\cos^2\theta$$

$$\boxed{2\cos^2\theta - 1 = 2\cos^2\theta - 1}$$

(A) Pythid

HWK 7.1

(12) $\sec^4\theta - \tan^4\theta = \sec^2\theta + \tan^2\theta$

(A) $(\sec^2\theta + \tan^2\theta)(\sec^2\theta - \tan^2\theta) = \sec^2\theta + \tan^2\theta$

$(\sec^2\theta + \tan^2\theta)(1) = \sec^2\theta + \tan^2\theta$

(B)

$\boxed{\sec^2\theta + \tan^2\theta = \sec^2\theta + \tan^2\theta}$

(A) bots

(B) Pythtd

Method (2)

$\sec^4\theta - \tan^4\theta = \sec^2\theta + \tan^2\theta$

(A) $\frac{1}{\cos^4\theta} - \frac{\tan^4\theta}{1} =$

$\frac{1}{\cos^4\theta} - \frac{\sin^4\theta}{\cos^4\theta} =$

$\frac{1 - \sin^4\theta}{\cos^4\theta} =$

(B) $\frac{(1-\sin^2\theta)(1+\sin^2\theta)}{\cos^4\theta} =$

(C) $\frac{\cos^2\theta}{\cos^2\theta} \cdot \frac{1+\sin^2\theta}{\cos^2\theta} =$

Hwk 7.1 #12 cont

$$\frac{\cos^2\theta}{\cos^2\theta} \cdot \frac{1+\sin^2\theta}{\cos^2\theta} = \sec^2\theta + \tan^2\theta$$

$$1 \cdot \frac{1+\sin^2\theta}{\cos^2\theta} = \sec^2\theta + \tan^2\theta$$

$$\frac{1+\sin^2\theta}{\cos^2\theta} = \sec^2\theta + \tan^2\theta$$

$$\frac{1}{\cos^2\theta} + \frac{\sin^2\theta}{\cos^2\theta} = \sec^2\theta + \tan^2\theta$$

(17) $$\sec^2\theta + \frac{\sin^2\theta}{\cos^2\theta} = \sec^2\theta + \tan^2\theta$$

$$\sec^2\theta + \tan^2\theta = \sec^2\theta + \tan^2\theta$$

(E)

---

(4) Reciprocal
(3) DOTS
(C) Pyth Id
(D) Reciprocal
(E) Quotient