

Beginning in cell #1, simplify the trigonometry expression. When you finish, circle your answer and hunt for it to advance in the circuit. Mark the next cell #2 and simplify that expression, hunt for the answer, and continue in this manner until you complete the circuit. (Extra paper may be needed... Please attach.)

<p>Answer – $-\csc\theta$</p> <p># 1 $\frac{\sin\theta}{\cot(\frac{\pi}{2}-\theta)} = \frac{\sin\theta}{\tan\theta}$</p> $= \sin\theta \cot\theta$ $= \sin\theta \frac{\cos\theta}{\sin\theta}$	<p>Answer – $\cos^3\theta$</p> <p># 10 $\frac{\sin\theta}{\sec\theta} - \frac{\cos\theta}{\csc\theta}$</p> $\sin\theta \cos\theta - \cos\theta \sin\theta$ 0
<p>Answer – $\tan(\theta)$</p> <p># 13 $\frac{1-\cot\theta}{\csc\theta} (1 - \frac{\cos\theta}{\sin\theta}) \sin\theta$</p> $\sin\theta - \cos\theta$	<p>Answer – -1</p> <p># 6 $\frac{\sin^2\theta}{\sec^2\theta-1}$</p> $\frac{\sin^2\theta}{\tan^2\theta}$ $\sin^2\theta \cot^2\theta$ $\sin^2\theta \cdot \frac{\cos^2\theta}{\sin^2\theta}$ $\cos^2\theta$
<p>Answer – $\cos\theta + \sin\theta$</p> <p># 4 $\frac{\sin\theta \cos^2\theta + \sin^3\theta}{\sin\theta (\cos^2\theta + \sin^2\theta)}$</p> $\frac{\sin\theta}{\sin\theta}$	<p>Answer – $-\sin^2\theta + \cos^2\theta$</p> <p># 8 $\frac{\sec^2\theta}{\csc^2\theta} = \frac{\sin^2\theta}{\cos^2\theta}$</p> $= \tan^2\theta$
<p>Answer – $\sin^2\theta$</p> <p># 16 $\frac{\sin\theta}{\cos^2\theta-1}$</p> $\frac{\sin\theta}{-\sin^2\theta}$ $-\csc\theta$	<p>Answer – $\cos(\theta) + \csc(\theta)$</p> <p># 3 $\tan\theta \cos\theta + \cos\theta$</p> $\frac{\sin\theta}{\cos\theta} \cdot \cos\theta + \cos\theta$ $\sin\theta + \cos\theta$

<p>Answer - $\sin\theta - \cos\theta$</p> <p># <u>14</u> $\frac{1 - \sin^4\theta}{\cos^2\theta}$</p> $\frac{(1 - \sin^2\theta)(1 + \sin^2\theta)}{1 - \sin^2\theta}$ $1 + \sin^2\theta$	<p>Answer - 0</p> <p># <u>11</u> $\frac{\sec\theta}{\sin\theta} - \frac{\sec\theta}{\csc\theta}$</p> $\frac{1}{\sin\theta \cos\theta} - \frac{\sin\theta}{\cos\theta}$ $\frac{1 - \sin^2\theta}{\sin\theta \cos\theta}$ $\frac{\cos^2\theta}{\sin\theta \cos\theta} \quad \cot\theta$
<p>Answer - $\cos(\theta)$</p> <p># <u>2</u> $\cot(\theta)(\sin(\theta) + \sec(\theta))$</p> $\frac{\cos\theta}{\sin\theta} \left(\sin\theta + \frac{1}{\cos\theta} \right)$ $\cos\theta + \frac{1}{\sin\theta}$ $\cos\theta + \csc\theta$	<p>Answer - $1 + \sin^2\theta$</p> <p># <u>15</u> $\sin^4\theta + \sin^2\theta \cos^2\theta$</p> $\sin^2\theta (\sin^2\theta + \cos^2\theta)$ $\sin^2\theta$
<p>Answer - $\tan^2\theta$</p> <p># <u>9</u></p> $\tan\left(\frac{\pi}{2} - \theta\right) \sin\left(\frac{\pi}{2} - \theta\right) \cos\left(\frac{\pi}{2} - \theta\right) \cos(-\theta)$ $\cot\theta \cos\theta \sin\theta \cos\theta$ $\frac{\cos\theta}{\sin\theta} \cos\theta \sin\theta \cos\theta$ $\cos^2\theta$	<p>Answer - $\sin\theta$</p> <p># <u>5</u> $(\sin^2\theta - 1)\sec^2\theta$</p> $-\cos^2\theta \sec^2\theta$ -1
<p>Answer - $\cos^2(\theta)$</p> <p># <u>7</u> $\cos^4\theta - \sin^4\theta$</p> $(\cos^2\theta - \sin^2\theta)(\cos^2\theta + \sin^2\theta)$	<p>Answer - $\cot\theta$</p> <p># <u>12</u> $\frac{\sec\theta - \cos\theta}{\sin\theta}$</p> $\frac{1}{\cos\theta} - \cos\theta$ $\frac{1 - \cos^2\theta}{\cos\theta \sin\theta} \quad \frac{\sin^2\theta}{\cos\theta \sin\theta}$ $\tan\theta$