## Advanced Trig Trail

Answer:

$$
\cos \frac{5 \pi}{6}
$$

## Simplify:

$$
\frac{\cos ^{2} t-1}{\sin ^{2} t-1}
$$

## Advanced Trig Trail

## Answer:

$$
\tan ^{2} t
$$

# Solve for $t$ in the interval [0, 360 ${ }^{\circ}$ ): 

$$
2 \cos ^{2} t-3 \cos t+1=0
$$

## Advanced Trig Trail

## Answer:

$$
t=0^{\circ}, 60^{\circ}, 300^{\circ}
$$

## Simplify:

$\sin t \cdot \tan t+\cos t$

Directions:
Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

## Answer:

$$
\sec t
$$

## Solve for $t$ in the

 interval $[0,2 \pi)$ :$$
2 \sin ^{2} t+\sin t=0
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

$$
\begin{aligned}
& \text { Answer: } \\
& \qquad t=0, \pi, \frac{7 \pi}{6}, \frac{11 \pi}{6} \\
& \text { Write the expression } \\
& \text { as cosine, sine, or } \\
& \text { tangent of an angle: }
\end{aligned}
$$

$\sin 20^{\circ} \cos 15^{\circ}+\cos 20^{\circ} \sin 15^{\circ}$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

## Answer:

$$
\sin 35^{\circ}
$$

## Simplify:

$$
\frac{\sin t}{\cos t} \cdot \frac{\sin t}{\sin t}+\frac{\cos t}{\sin t} \cdot \frac{\cos t}{\cos t}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

$$
\begin{aligned}
& \text { Answer: } \\
& \qquad \sec t \cdot \csc t \\
& \text { Find the exact value of } \\
& \text { cos } 15^{\circ} \text { using the } \\
& \text { difference angle } \\
& \text { formula for cosine. }
\end{aligned}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

$$
\begin{aligned}
& \text { Answer: } \\
& \qquad \frac{\sqrt{2}+\sqrt{6}}{4} \\
& \text { Use the sum angle } \\
& \text { formula for sine to } \\
& \text { simplify } \sin (t+t) .
\end{aligned}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

$$
\begin{aligned}
& \text { Answer: } \\
& \qquad 2 \sin t \cos t \\
& \text { Solve for } t \text { in the } \\
& \text { interval }[0,4 \pi): \\
& \sin t=\frac{\sqrt{3}}{2}
\end{aligned}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

## Answer: <br> $$
t=\frac{\pi}{3}, \frac{2 \pi}{3}, \frac{7 \pi}{3}, \frac{8 \pi}{3}
$$ <br> Simplify: <br> $$
\frac{\tan t \sin 2 t \csc t}{\cos t}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

## Answer:

## $2 \tan t$

Find the solutions to
the equation in the
interval $[0,2 \pi)$.

$$
\sin 2 t=\sin t
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

## Advanced Trig Trail

$$
\begin{aligned}
& \text { Answer: } \\
& \qquad t=0, \pi, \frac{\pi}{3}, \frac{5 \pi}{3} \\
& \text { Write the expression } \\
& \text { as cosine, sine, or } \\
& \text { tangent of an angle: } \\
& \text { mon mims min } \frac{\pi}{2} \frac{\pi}{2}
\end{aligned}
$$

## Directions:

Do the problem on this sheet and then look for the solution on another sheet.

