Additional Problems: Trigonometry

**The Cosine Function**

**Some problems include the solution. Please remove before sharing with students.**

1. When finding $\cos(θ)=\frac{1}{\sqrt{2}}$ on a unit circle, what type of special right triangle or a ray is used?

a vertical ray from the origin

a horizontal ray from the origin

30-60-90 triangle

45-45-90 triangle

\*\*Solution:\*\* 45-45-90 triangle

1. When finding $\cos(θ)=\frac{1}{2}$ on a unit circle, what type of special right triangle or a ray is used?

a vertical ray from the origin

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30-60-90 triangle

45-45-90 triangle

\*\*Solution:\*\* 30-60-90 triangle

1. What is the value of $\cos(θ)$ if the terminal side of $θ$ and the unit circle intersect at point $\left(-\frac{1}{2}, -\frac{\sqrt{3}}{2}\right).$

$$\frac{1}{2}$$

$$\frac{\sqrt{3}}{2}$$

$$-\frac{1}{2}$$

$$-\frac{\sqrt{3}}{2}$$

Solution: $-\frac{1}{2}$

1. What is the value of $\cos(θ)$ if the terminal side of $θ$ and the unit circle intersect at point $\left(-\frac{\sqrt{2}}{2}, -\frac{\sqrt{2}}{2}\right).$

$$\frac{\sqrt{2}}{2}$$

$$\frac{1}{\sqrt{2}}$$

$$-\frac{\sqrt{2}}{2}$$

$$-\frac{1}{\sqrt{2}}$$

Solution: $-\frac{\sqrt{2}}{2}$

1. Given that $\cos(θ)=1,$ find the coordinates of the point where the terminal side of $θ $intersects the unit circle, if $θ$ is a reflex angle.

(0, −1)

(1,0)

(0,1)

(-1,0)

Solution: (1,0)

1. Given that $\cos(θ)=-1,$ find the coordinates of the point where the terminal side of $θ $intersects the unit circle, if $θ$ is a reflex angle.

(0,−1)

(1,0)

(0,1)

(-1,0)

Solution: (-1,0)