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| **Fill in the Blanks** | **Solving Trigonometric Equations with Multiple Angles** |

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| **Question** | **Substitute** $x=…$ | **Rearrange Equation** | **Acute Angle** | **Range for** $x$ | **Unit Circle** | **Solutions for** $x$ | **Solutions for** $θ$ |
| Solve$$7\cos((2θ))=5$$for$$0°\leq θ<180°$$ | $$x=2θ$$$$7\cos(x)=5$$ | $$\cos(x)=\frac{5}{7}$$ | $$x=cos^{-1}\left(\frac{5}{7}\right)$$$$x=44.415°$$ | $$0°\leq x<360°$$ |  |  |  |
| Solve$$8\sin((3θ))-7=0$$for$$-90°\leq θ<90°$$ | $$x=3θ$$$$8\sin(x)-7=0$$ |  |  |  |  |  |  |
| Solve$$\frac{4}{\tan(\left(θ+25\right))}=3$$for$$-180°\leq θ<180°$$ |  |  |  |  |  |  |  |
| $$9\cos(\left(2θ-15\right)=4)$$for$$0°\leq θ<360°$$ |  |  |  |  |  |  |  |
| $$\frac{\tan(\left(3θ+70\right))}{2}+3=0$$for$$-90°\leq θ<90°$$ |  |  |  |  |  |  |  |