

## MTH 30 Trig Handout (Ojakian)

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### 1. Trigonometric Definitions

$$(a) \sin(\theta) = \frac{\textit{Opposite}}{\textit{Hypotenuse}} = \frac{y}{r}$$

$$(b) \cos(\theta) = \frac{\textit{Adjacent}}{\textit{Hypotenuse}} = \frac{x}{r}$$

$$(c) \tan(\theta) = \frac{\textit{Opposite}}{\textit{Adjacent}} = \frac{y}{x}$$

$$(d) \cot(\theta) = \frac{1}{\tan(\theta)}$$

$$(e) \sec(\theta) = \frac{1}{\cos(\theta)}$$

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

### 2. Trigonometric Values

$$(a) \sin(45^\circ) = \cos(45^\circ) = \frac{\sqrt{2}}{2}$$

$$(b) \tan(45^\circ) = 1$$

$$(c) \sin(30^\circ) = \cos(60^\circ) = \frac{1}{2}$$

$$(d) \sin(60^\circ) = \cos(30^\circ) = \frac{\sqrt{3}}{2}$$

$$(e) \tan(30^\circ) = \frac{\sqrt{3}}{3}$$

$$(f) \tan(60^\circ) = \sqrt{3}$$