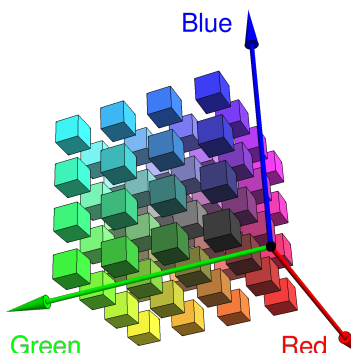


## Unit 2: Dot product Worksheet



Colors are encoded by vectors  $\vec{v} = [r, g, b]$ , where the **red**, **green** and **blue** components are all numbers in the interval  $[0, 1]$ . Examples are:

$[0, 0, 0]$	black	$[0, 0, 1]$	blue
$[1, 1, 1]$	white	$[1, 1, 0]$	yellow
$[1/2, 1/2, 1/2]$	gray	$[1, 0, 1]$	magenta
$[1, 0, 0]$	red	$[0, 1, 1]$	cyan
$[0, 1, 0]$	green	$[1, 1/2, 0]$	orange
$[0, 1, 1/2]$	spring green	$[1, 1, 1/2]$	khaki
$[1, 1/2, 1/2]$	pink	$[1/2, 1/4, 0]$	brown

- 1 Determine the angle between the colors magenta and cyan.
- 2 Find a color which is both orthogonal to orange and yellow.
- 3 What does the scaling  $\vec{v} \mapsto \vec{v}/2$  do, if  $\vec{v}$  represents a color?