1 | **Class Problems**

1.1 | (1) **and** (2)

(2): If the xy-angle, z-angle, and magnitude of a point in 3D space are represented by the variables θ, ϕ, l, then the vector representation of the point will be equal to $< \sin\phi \cdot \cos\theta, \sin\phi\cos\theta, \cos\phi > \cdot l$. Therefore, the answer to (1) is $< \frac{\pi}{4}, \frac{\pi}{4}, \frac{\sqrt{3}}{2} >$.

2 | **Vectors**

2.1 | (2)

Magnitude: $\sqrt{10}$
Direction: $< \frac{3}{\sqrt{10}}, -\frac{1}{\sqrt{10}} >$

2.2 | (5)

Magnitude: $\sqrt{21}$
Direction: $< \frac{1}{\sqrt{21}}, -\frac{2}{\sqrt{21}}, \frac{4}{\sqrt{21}} >$

2.3 | (9)

Magnitude: $\frac{\sqrt{5}}{2}$

Direction: $< -\sqrt{\frac{3}{5}}, \sqrt{\frac{2}{5}} >$

2.4 | (30)

See Drawings Section

2.5 | **Drawings**

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