## Contents



## Initialize

```
clear; clc;
```

## given vals

```
R = [-6000 -1000 -5000];        % km
e = [0.4 0.5 0.6];
```

## determine magnitudes

```
r = norm(R);
em = norm(e);
```

## calculate true anomaly

approaching perigee so:

```
theta = 360 - acosd(dot(R, e)/(em*r));
fprintf("true anomaly: %g deg", theta);
```

```
true anomaly: 211.361 deg
```

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