

> with(VectorCalculus) :

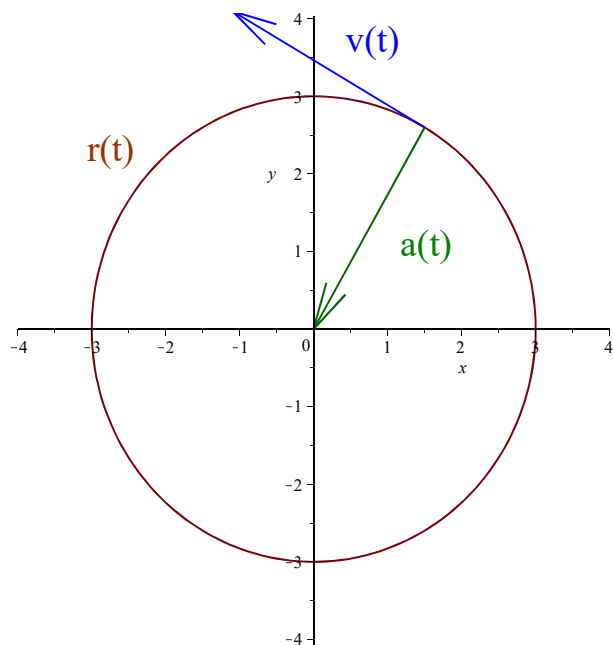
**QUESTION 1:**

> r1 := plot([3 cos(t), 3 sin(t), t = 0..2 Pi], x = -4..4, y = -4..4) :

> v1 := PlotVector( $\left\langle \frac{3}{2}, \frac{3 \sqrt{3}}{2} \right\rangle$ ,  $\left\langle \frac{-3 \sqrt{3}}{2}, \frac{3}{2} \right\rangle$ , shape = arrow, colour = blue) :

> a1 := PlotVector( $\left\langle \frac{3}{2}, \frac{3 \sqrt{3}}{2} \right\rangle$ ,  $\left\langle -\frac{3}{2}, \frac{-3 \sqrt{3}}{2} \right\rangle$ , shape = arrow, colour = "DarkGreen") :

> plots:-display([r1, v1, a1]);



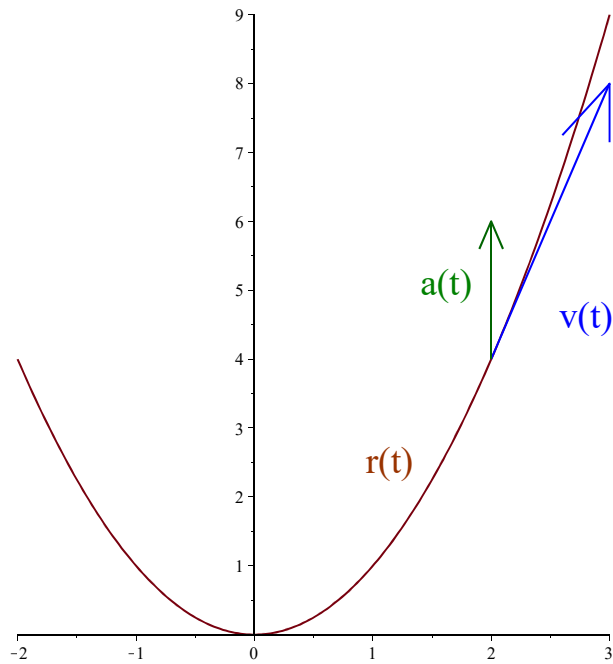
**QUESTION 2:**

```
> r2 := plot([t, t^2, t=-2..3]) :
```

```
> v2 := PlotVector(<2, 4>, <1, 4>, shape=arrow, colour=blue) :
```

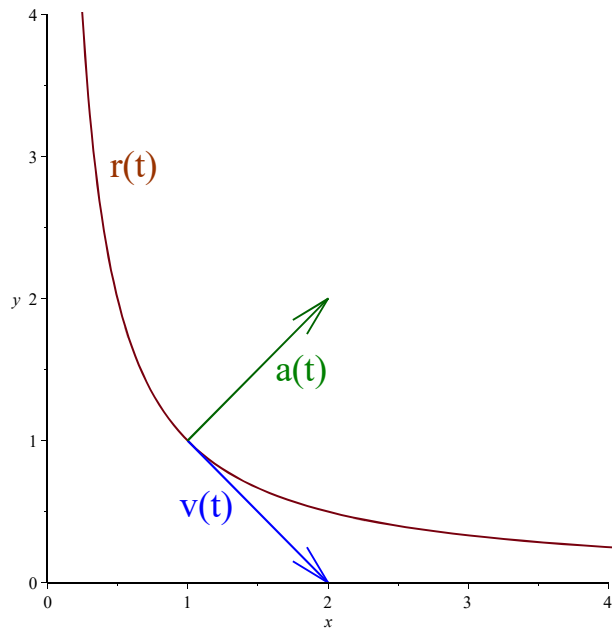
```
> a2 := PlotVector(<2, 4>, <0, 2>, shape=arrow, colour="DarkGreen") :
```

```
> plots:-display([r2, v2, a2]);
```



### QUESTION 3:

```
> r3 := plot([exp(1)^t, exp(1)^-t, t=-3..5], x=0..4, y=0..4) :  
> v3 := PlotVector(<1, 1>, <1, -1>, shape=arrow, colour=blue) :  
> a3 := PlotVector(<1, 1>, <1, 1>, shape=arrow, colour="DarkGreen") :  
> plots:-display([r3, v3, a3]);
```



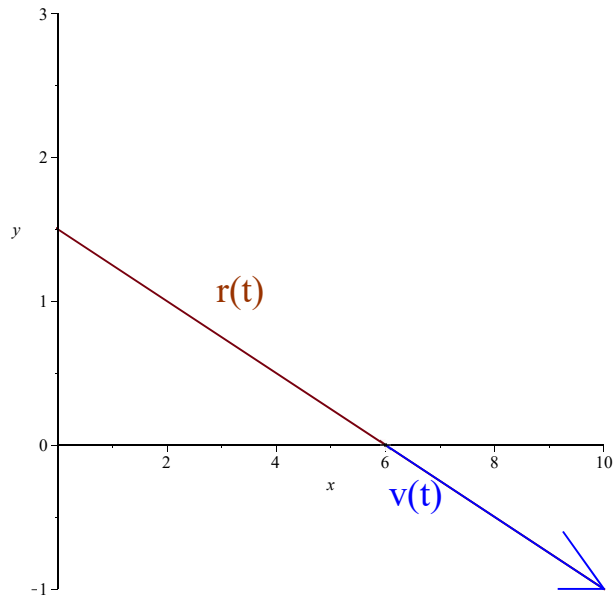
#### QUESTION 4:

```
> r4 := plot([ (2 + 4 t), (1 - t), t=-3 ..3], x=0 ..10, y=-1 ..3) :
```

```
> v4 := PlotVector( <6, 0>, <4, -1>, shape=arrow, colour=blue) :
```

```
> a4 := PlotVector( <6, 0>, <0, 0>, shape=arrow, colour="DarkGreen") :
```

```
> plots:-display([r4, v4, a4]);
```



```
>
```