

Integrate Quartic Polynomial

Evaluate the definite integral

$$I = \int_{-1}^3 (3x^4 - 4x^2 + 10x - 25) dx.$$

Create a vector to represent the polynomial integrand $3x^4 - 4x^2 + 10x - 25$. The x^3 term is absent and thus has a coefficient of 0.

```
p = [3 0 -4 10 -25];
```

Use `polyint` to integrate the polynomial using a constant of integration equal to 0.

```
q = polyint(p)
```

Find the value of the integral by evaluating `q` at the limits of integration.

```
a = -1;  
b = 3;  
I = diff(polyval(q,[a b]))
```

Copyright 2015 The MathWorks, Inc.