

```
In [6]:
# 연습문제 4 p211
from scipy.stats import norm
import math

z1 = (75 - 75) / (10 / math.sqrt(25))
z2 = (79 - 75) / (10 / math.sqrt(25))
print(z1, z2)

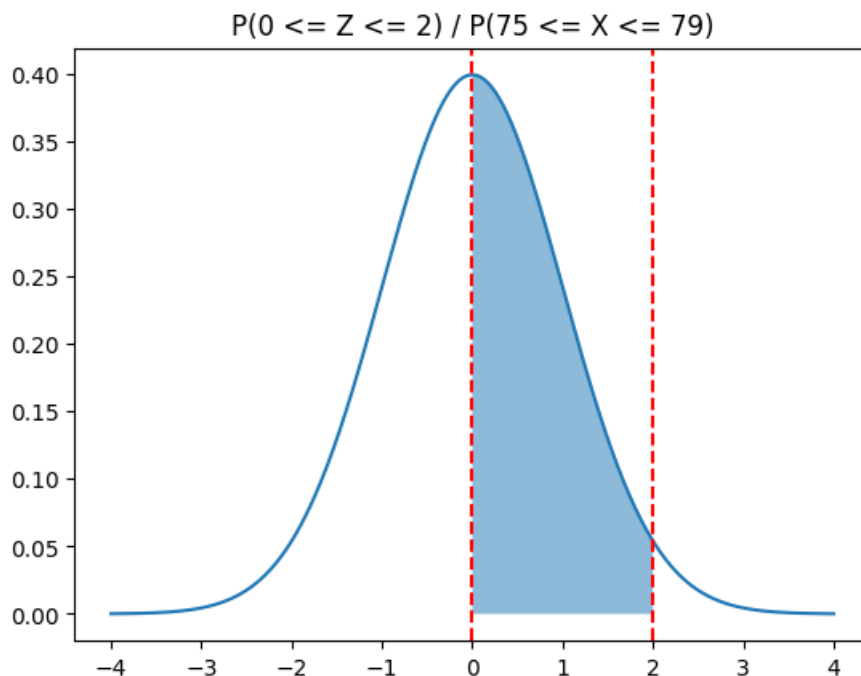
prob = norm.cdf(z2) - norm.cdf(z1)
print(f'P({z1:.4f} <= Z <= {z2:.4f}) : {prob:.4f}')
0.0 2.0
P(0.0000 <= Z <= 2.0000): 0.4772
```

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In [11]:
import matplotlib.pyplot as plt
import numpy as np
from scipy.stats import norm
```

```
x = np.linspace(-4, 4, 1000)
y = norm.pdf(x)
```

```
z1 = 0
z2 = 2
x_fill = np.linspace(z1, z2, 1000)
y_fill = norm.pdf(x_fill)
```

```
fig, ax = plt.subplots()
ax.plot(x, y)
ax.fill_between(x_fill, y_fill, alpha=0.5)
ax.axvline(0, color='red', linestyle='--')
plt.axvline(2, color='red', linestyle='--')
ax.set_title(f'P({z1} <= Z <= {z2}) / P(75 <= X <= 79)')
plt.show()
```



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