

```
In [8]:
# 연습문제 4 / 예제(5.21), p173
from scipy.stats import norm

mu = 50 # 평균
sigma = 10 # 표준편차

#  $P(60 < X < 65)$ 
prob = norm.cdf(65, mu, sigma) - norm.cdf(60, mu, sigma)
```

```
print(f"P(60 < X < 65) = {prob}")
P(60 < X < 65) = 0.09184805266259899
```

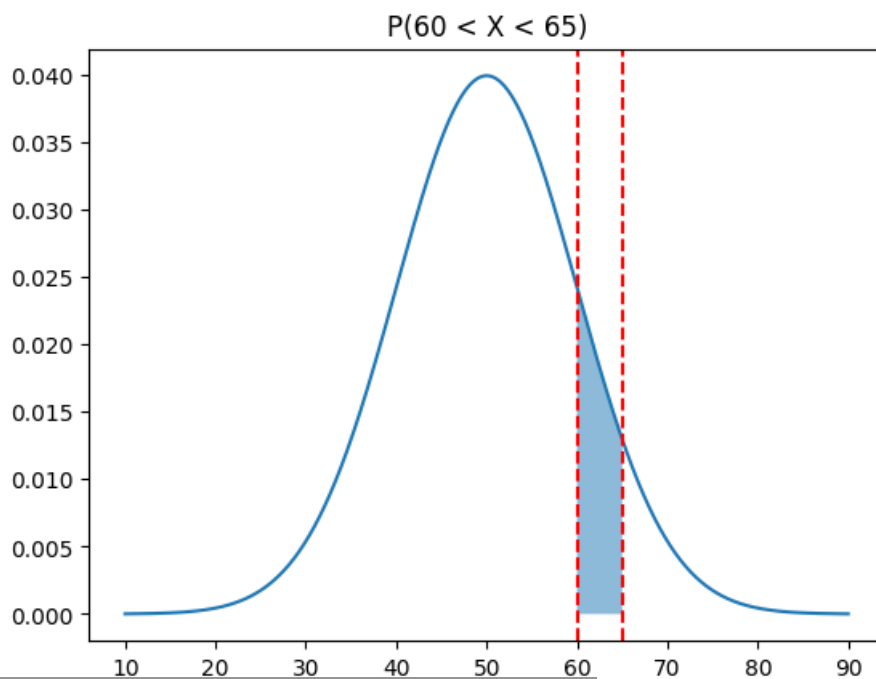
```
In [1]:
# 연습문제 4 - 그래프 출력하기 / 예제(5.21), p173
import matplotlib.pyplot as plt
import numpy as np
from scipy.stats import norm
```

```
mu = 50 # 평균
sigma = 10 # 표준편차

x = np.linspace(mu - 4 * sigma, mu + 4 * sigma, 1000)
y = norm.pdf(x, mu, sigma)
```

```
#  $P(60 < X < 65)$ 
x_fill = np.linspace(60, 65, 100)
y_fill = norm.pdf(x_fill, mu, sigma)
```

```
plt.plot(x, y)
plt.fill_between(x_fill, y_fill, alpha=0.5)
plt.title("P(60 < X < 65)")
plt.axvline(60, color="red", linestyle="--")
plt.axvline(65, color="red", linestyle="--")
plt.show()
```



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