```python
import numpy as np
a = 162
b = 190
mean = 171
variance_squared = 50.41
def normal_dens(x,mean,variance_squared):
    return 1 / (np.sqrt(2*np.pi*variance_squared))*np.exp(-(x-mean)**2/(2*variance_squared))

def integr(func,a,b,num_intervals=1000):
    x_values = np.linspace(a,b,num_intervals+1)
    y_values = func(x_values)
    integral_val = np.trapz(y_values,x_values)
    return integral_val

def normal_dens_func(x):
    return normal_dens(x,mean,variance_squared)

prob=integr(normal_dens_func,a,b)
print(f'The probability/proportion of a with height between {a} cm and {b} cm is {prob}')
```

The probability/proportion of a with height between 162 cm and 190 cm is 0.8938055523639304