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Practical - Simpsons 1/3 rule

```
f[x_] := x^2;
a = 1
b = 6
n = 10
h = (b - a) / 10;
eesum = 0;
odsum = 0;
sol =
 N[(h / 3) * (f[a] + f[b]) + (4 * (For[i = 1, i < n, i = i + 2, eesum = eesum + f[a + i * h]])) +
    (2 * (For[i = 2, i < n, i = i + 2, odsum = odsum + f[a + (i * h)]]))]
```

1

6

10

6.16667 + 6. Null

```
(h / 3) * N[(f[a] + f[b]) +
    4 * Sum [f[a + (i * h)], {i, 1, n, 2}] + 2 * Sum[f[a + (i * h)], {i, 2, n - 1, 2}]]
```

71.66666666666666`

71.6667

```
Print["the integeral of the function is", sol]
```

the integeral of the function is6.16667 + 6. Null

```
Clear[f, a, b, n, h]
```

$$f[x\_] := \frac{1}{1+x};$$

```
a = 1
b = 6
n = 6
h = (b - a) / 6
```

1

6

6

$\frac{5}{6}$

```
(h / 3) * N[(f[a] + f[b]) +
    4 * Sum [f[a + (i * h)], {i, 1, n, 2}] + 2 * Sum[f[a + (i * h)], {i, 2, n - 1, 2}]]
```

```
1.2535
```