

Задача N2

FROM THE MAKERS OF WOLFRAM LANGUAGE AND MATHEMATICA



find maximum of function $y = (0.334^2 + \text{abs}((-0.5375x + 0.779))^2 + \text{abs}((-0.8556x))^2)$ at x from 0.35 to 0.8

NATURAL LANGUAGE

MATH INPUT

EXTENDED KEYBOARD

EXAMPLES

UPLOAD

RANDOM

Input interpretation

maximize

function

$$0.334^2 + |-0.5375x + 0.779|^2 + |-0.8556x|^2$$

domain

$$0.35 \leq x \leq 0.8$$

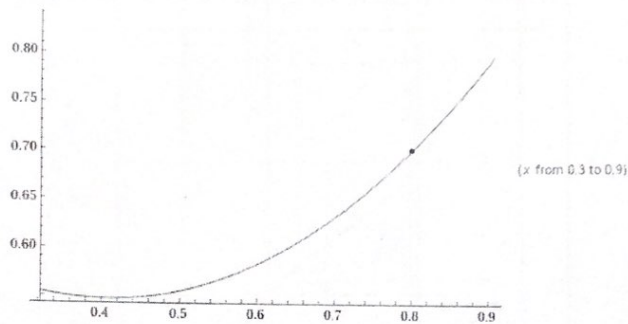
$|z|$ is the absolute value of z

☒ Step-by-step solution

Global maximum

$$\max\{0.334^2 + |-0.5375x + 0.779|^2 + |-0.8556x|^2 \mid 0.35 \leq x \leq 0.8\} \approx 0.70187 \text{ at } x = 0.8$$

Plot



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Программный написания интерполированного графика K:

```
Ksigma=[1.8,2.0,2.2,2.3,2.5,2.6,2.7];
```

```
sigma=[400,500,600,700,800,900,1000];
```

```
sigma_q = 400:5:1000; % additional query points
```

```
F1 = griddedInterpolant(sigma,Ksigma,'spline'); % interpolant 1
```

```
Ksigma_Inter=F1(sigma_q);
```

```
plot(Ksigma_Inter,sigma_q)
```

```
% Анализ интерполированного графика
```

```
% 520-- 2.04685714285714
```

```
% 820-- 2.53028571428571
```

```
% 950-- 2.63660714285714
```

```
%1000-- 2.70000000000000
```

```
grid on
```

```
grid minor
```

```
set(0,'DefaultLineLineWidth',1)
```

```
ax=gca;
```

```
ax.GridColor='k';
```

```
ax.GridAlpha = 0.8;
```

```
ax.GridLineStyle = '-';
```

```
ax.GridLineStyle = '-';
```