- **Investigation of Theorem 1.1 of**

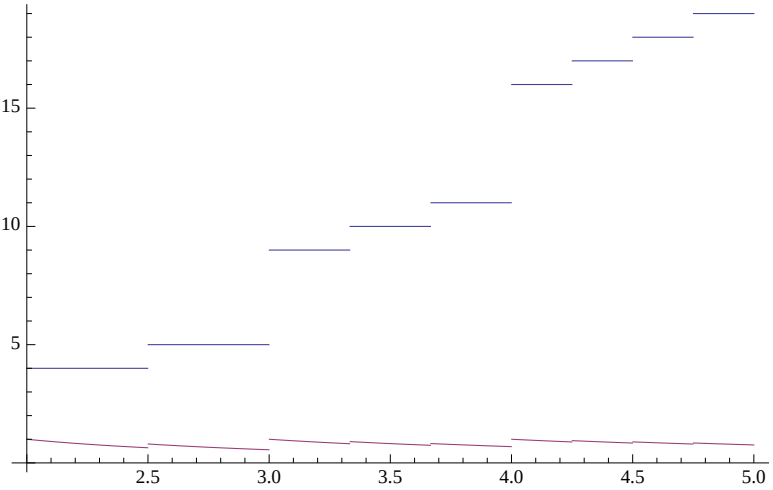
PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY
Volume 125, Number 1, January 1997, Pages 17 {26 S 0002 - 9939 (97) 03930 - 0
ON 2 D PACKINGS OF CUBES IN THE TORUS
ANDREW V.REZTSOV AND IAN H.SLOAN

In[1]:=
```
n := Floor[x Floor[x]]
```

In[2]:=
```
d := n / x^2
```

In[4]:=
```
Plot[{n, d}, {x, 2, 5}]
```

Out[4]=



Many of these answers are wrong!

In[30]:=
```
Table[{i, Maximize[{d, n == i, x > 2}, x]}, {i, 2, 20}]
```

Out[30]=
$$\left\{\{2, \{-\infty, \{x \to \text{Indeterminate}\}\}\}, \{3, \{-\infty, \{x \to \text{Indeterminate}\}\}\},\right.$$
$$\{4, \{1, \{x \to 2\}\}\}, \left\{5, \left\{\frac{4}{5}, \left\{x \to \frac{5}{2}\right\}\right\}\right\}, \{6, \{-\infty, \{x \to \text{Indeterminate}\}\}\},$$
$$\{7, \{-\infty, \{x \to \text{Indeterminate}\}\}\}, \{8, \{-\infty, \{x \to \text{Indeterminate}\}\}\}, \{9, \{1, \{x \to 3\}\}\},$$
$$\left\{10, \left\{\frac{9}{10}, \left\{x \to \frac{10}{3}\right\}\right\}\right\}, \left\{11, \left\{\frac{9}{11}, \left\{x \to \frac{11}{3}\right\}\right\}\right\}, \{12, \{-\infty, \{x \to \text{Indeterminate}\}\}\},$$
$$\{13, \{-\infty, \{x \to \text{Indeterminate}\}\}\}, \{14, \{-\infty, \{x \to \text{Indeterminate}\}\}\},$$
$$\{15, \{-\infty, \{x \to \text{Indeterminate}\}\}\}, \{16, \{1, \{x \to 4\}\}\}, \left\{17, \left\{\frac{16}{17}, \left\{x \to \frac{17}{4}\right\}\right\}\right\},$$
$$\left\{18, \left\{\frac{8}{9}, \left\{x \to \frac{9}{2}\right\}\right\}\right\}, \left\{19, \left\{\frac{16}{19}, \left\{x \to \frac{19}{4}\right\}\right\}\right\}, \{20, \{-\infty, \{x \to \text{Indeterminate}\}\}\}\right\}$$