a)

In[ ]:=
```
n = 4;
(*number of boxes in each iteration*)s = 1 / 3;
(*size of the boxes in each iteration*)
(*calculate the box-counting dimension*)boxCountingDimension = Log[n] / Log[1 / s]
```

Out[ ]=
$$\frac{\text{Log}[4]}{\text{Log}[3]}$$

In[ ]:=
```
n = 8;
(*number of boxes in each iteration*)s = 1 / 4;
(*size of the boxes in each iteration*)
(*calculate the box-counting dimension*)boxCountingDimension = Log[n] / Log[1 / s]
```

Out[ ]=
$$\frac{\text{Log}[8]}{\text{Log}[4]}$$

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