Shaded squares 2

Let the length of one side of the smallest square be x

The length of one side of the next size square is $2x$

The length of one side of the next size square is $3x$

The length of one side of the next size square is $5x$

The length of one side of the next size square is $8x$

The length of one side of the next size square is $13x$

The length of one side of the largest square is $21x$

The rectangle design measures $21x \times 34x$

The area of the overall design is $21x \times 34x = 714x^2$ square units

Shaded areas:

One each of

x^2, $(3x)^2$, $(8x)^2$ and $(21x)^2$

Total shaded area $= x^2 + 9x^2 + 64x^2 + 441x^2 = 515x^2$

Percentage of design shaded $= \frac{515x^2}{714x^2} \times 100 = 72.1\%$ (3 s.f.)

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