

November 10<sup>th</sup>

Joshua has a stack of coloured cards.  
Each colour has an associated number as follows:  
red is 2, green is 3, orange is 5 and pink is 7.

Joshua selects some cards whose product is 504000.

Find the sum.



$$1000 = 2^3 \times 5^3$$

$$504 = 2^3 \times 3^2 \times 7$$

$$504,000 = 2^6 \times 3^2 \times 5^3 \times 7$$

$$\text{Sum} = 2 \times 6 + 3 \times 2 + 5 \times 3 + 7 = \mathbf{40}$$