

## Summation Questions

$$\text{Show that } \sum_{r=1}^{16} (3 + 5r + 2^r) = 131\,798$$

Now try these...

$$1. \quad \sum_{r=1}^{16} 5(r+1) + 2^{r+1}$$

$$2. \quad \sum_{r=1}^8 5(2r+1) + 2^{2r+1}$$

$$3. \quad \sum_{r=1}^{10} 3^r - 4(r-1)$$

$$4. \quad \sum_{r=1}^5 \left(\frac{1}{2}\right)^r$$

$$5. \quad \sum_{r=1}^5 \left(\frac{1}{10}\right)^r$$

$$6. \quad \sum_{r=1}^5 \frac{3}{10^r}$$

$$7. \quad \sum_{r=1}^5 \left(\frac{3}{10}\right)^r$$

$$8. \quad \sum_{r=1}^{16} r^2$$

## Summation Questions - Answers

$$\text{Show that } \sum_{r=1}^{16} (3 + 5r + 2^r) = 131798$$

Now try these...

$$1. \quad \sum_{r=1}^{16} 5(r+1) + 2^{r+1} = 262900$$

$$5. \quad \sum_{r=1}^5 \left(\frac{1}{10}\right)^r = 0.11111$$

$$2. \quad \sum_{r=1}^8 5(2r+1) + 2^{2r+1} = 175160$$

$$6. \quad \sum_{r=1}^5 \frac{3}{10^r} = 0.33333$$

$$3. \quad \sum_{r=1}^{10} 3^r - 4(r-1) = 88392$$

$$7. \quad \sum_{r=1}^5 \left(\frac{3}{10}\right)^r = 0.42753$$

$$4. \quad \sum_{r=1}^5 \left(\frac{1}{2}\right)^r = 0.96875$$

$$8. \quad \sum_{r=1}^{16} r^2 = 1496$$