Answers: Introduction to sigma notation

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Summary

Answers to questions relating to the guide on introduction to sigma notation.

*These are the answers to* [*Questions: Introduction to sigma notation*](../questions/qs-sigmanotation.qmd)*.*

**Please attempt the questions before reading these answers!**

## Q1

1.1. $ \sum\_{i=1}^{10}2i=110$

1.2. $ \sum\_{i=2}^{11}i=65$

1.3. $ \sum\_{i=3}^{6}3i=54$

1.4. $ \sum\_{i=1}^{5}i^{3}=225$

1.5. $ \sum\_{i=2}^{6}5i^{2}=455$

1.6. $ \sum\_{i=3}^{6}2=8$

1.7. $ \sum\_{i=1}^{6}j=6j$

## Q2

2.1. $ 3+6+9+12=\sum\_{i=1}^{43}i$

2.2. $ −1−2−3−4=\sum\_{i=1}^{4}−i$

2.3. $ 0+3+9+27+81=\sum\_{i=0}^{43}​^{i}$

2.4. $ 1+1+1+1+1=\sum\_{i=1}^{51}​$

2.5. $ 6−12+18−24=\sum\_{i=1}^{4}\left(−1\right)^{i+1}6i$

2.6. $ 8+16+12+4=\sum\_{i=1}^{44}i$

2.7. $ 25+20+15+10+5=\sum\_{i=1}^{55}i$

## Q3

3.1. $ \sum\_{i=1}^{n}2i=2\sum\_{i=1}^{n}i$

3.2. $ \sum\_{i=1}^{n}2i+\sum\_{j=1}^{n}2i=4\sum\_{i=1}^{n}i$

3.3. $ \sum\_{i=0}^{n}4i+\sum\_{i=1}^{n}2i=6\sum\_{i=1}^{n}i$

3.4. $ \sum\_{i=2}^{n}2i−\sum\_{i=1}^{n}i=−1+\sum\_{i=2}^{n}i$

## Version history and licensing

v1.0: initial version created 08/23 by Ifan Howells-Baines, Mark Toner as part of a University of St Andrews STEP project.

* v1.1: edited 05/24 by tdhc.

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