

1) Meg says,

“The sum of three prime numbers is always odd.”

Write an example to show that Meg is incorrect.

2) Mike says.

“If you cube a prime number, the result will always be odd.”

Give an example to show that Mike is wrong.

3) Explain why an odd number plus another odd number plus an even number is always even.

4) P is an odd number.

Q is an even number.

Explain why $2P + 2Q - 1$ is always odd.

5) P is an odd number.

Q is an even number.

Tim says that $P + Q$ is always a prime number.

Explain why Tim is wrong.