

# Introduction to Mathematical Thinking

## Assignment 1

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### Solutions

1. The man looked at the woman through a telescope. The woman looked at the man through a telescope.
2. (a) Sisters reunited in checkout line at Safeway after ten years.  
(b) City authorities are looking into appearance of large hole in High Street.  
(c) Mayor says bus passengers should keep seat belts on.
3. A head injury should never be ignored.
4. Use the stairs.
5. The sentence is a true statement. The purpose is to convey that it is not the end of the document, or a statement in itself. Reformulation: This page intentionally left blank. This is not the end of the document.
6. St Pancras plans for direct trains from UK to Germany. Families return home after sinkhole swallows road.
7. The sentence assigns a qualitative value i.e. hot, to a quantitative variable i.e. temperature. Hot could mean different values of temperature in different contexts. This could be disastrous in situations where temperature needs to be carefully monitored with high accuracy.
8. We begin by searching
  - $(2 \times 3) + 1 = 7$
  - $(2 \times 3 \times 5) + 1 = 31$
  - $(2 \times 3 \times 5 \times 7) + 1 = 211$
  - $(2 \times 3 \times 5 \times 7 \times 13) + 1 = 30,031$

## 0.1 Just for fun

1. The context is someone explaining their position on a subject to another person. The person explaining their position pauses between each part of the explanation. Sentence: ‘Why do you think that is the case? And? And? And? And? And? And? Ok, that makes sense.’
2. The context is that a person is explaining a technical concept to another person. Sentence: ‘When a ball is released, gravity causes it to move down and, or, and, or, touch the ground and bounce back from it.’