Chapter 1 Solutions, Susanna Epp Discrete Math 5th Edition

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Contents

1 Exercise Set 1.1

In each of 1–6, fill in the blanks using a variable or variables to rewrite the given statement.

1.1 Problem 1

Is there a real number whose square is -1?

1.1.1 (a)

Is there a real number x such that ____ ?

Proof. Is there a real number x such that $\underline{x^2 = -1}$?   □

1.1.2 (b)

Does there exist _____ such that $x^2 = -1$?

Proof. Does there exist <u>a real number x</u> such that $x^2 = -1$? □

1.2 Problem 2

Is there an integer that has a remainder of 2 when it is divided by 5 and a remainder of 3 when it is divided by 6?

Note: There are integers with this property. Can you think of one?

1.2.1 (a)

Is there an integer n such that n has _____ ?

Proof. Is there an integer n such that n has <u>a remainder of 2 when it is divided by 5</u> <u>and a remainder of 3 when it is divided by 6?</u> □

1.2.2 (b)

Does there exist _____ such that if n is divided by 5 the remainder is 2 and if _____ ?

Proof. Does there exist <u>an integer n</u> such that if n is divided by 5 the remainder is 2 and if <u>n is divided by 6 the remainder is 3?</u> □

1.3 Problem 3

1.3.1 (a)

Proof. □

1.3.2 (b)

Proof. □

1.4 Problem 3

1.4.1 (a)

Proof. □

1.4.2 (b)

Proof. □