HOMEWORK 1

MATH 3140

SEBASTIAN CASALAINA

ABSTRACT. This is Homework 1. The problems are from Fraleigh [Fra03, §0]:

- HW1a Fraleigh Exercises 0: 2, 4, 10, 12, 14, 17.
- HW1b Fraleigh Exercises 0: 18, 19, 28, 30, 31, 36.

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Homework 1

SECTION 0

Exercise 0.2. Describe the set $\{m \in \mathbb{Z} \mid m^2 = 3\}$ by listing its elements.

Solution. Since there is no integer whose square is equal to 3, we have that

$${m \in \mathbb{Z} \mid m^2 = 3} = { };$$

i.e., the empty set \emptyset .

Exercise 0.4. Describe the set $\{m \in \mathbb{Z} \mid m^2 - m < 115\}$ by listing its elements.

Solution.	
Exercise 0.10.	
Solution.	
Exercise 0.12.	
Solution.	
Exercise 0.14.	
Solution.	
Exercise 0.17.	
Solution.	
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Exercise 0.28.	
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Solution.	

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Exercise 0.31.		
Solution.		
Exercise 0.36.		
Solution.		

References

[Fra03] John Fraleigh, A First Course in Abstract Algebra, Seventh edition, Addison Wesley, Pearson, 2003.

UNIVERSITY OF COLORADO, DEPARTMENT OF MATHEMATICS, CAMPUS BOX 395, BOULDER, CO 80309 Email address: casa@math.colorado.edu