

Applied Algebra

Instructions Please write your name in the upper right-hand corner of the page. Use complete sentences, along with any necessary supporting calculations, to answer the following questions.

1. Consider the set of integers that are divisible either by 2 or by 3 or by both 2 and 3. Is this *subset* of the integers a *subgroup* of the integers (under addition)? Explain why or why not.

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2. List all the cyclic subgroups of the group $(\mathbb{Z}_6, +)$ [the integers mod 6 under addition].