

Modular Arithmetic Exploration Questions

Clocks can be used to explain modular arithmetic. Answer the following questions, using the activity to check your work:

1. What is $22 \bmod 12$? $22 \bmod 10$?
2. What is $54 \bmod 6$? $54 \bmod 9$? $54 \bmod 17$?
3. What is $8 \bmod 22$? $8 \bmod 3$? $8 \bmod 5$?
4. What is $15 \bmod 31$? $15 \bmod 3$? $15 \bmod 5$?
5. Can you find two different numbers that fit in this blank to make the statement true:
 $78 \bmod \underline{\quad} = 6$
6. How does division relate to this activity?