Day 9

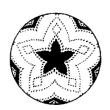**Largest order**

Turn to someone sitting near you. Take about 3 minutes to discuss:

What is the largest order of any element in the symmetry group of the following design?

Examples of Subgroups

1. Inside $U(12)$, how many distinct elements are in the cyclic subgroup $\langle 7 \rangle$?

(A) 2

(B) 3

(C) 4

(D) None of the above

2. Let R be rotation by $\sqrt{2}$ degrees inside the symmetry group of the circle. How many distinct elements are in the cyclic subgroup $\langle R \rangle$?

(A) 2

(B) 4

(C) 6

(D) None of the above