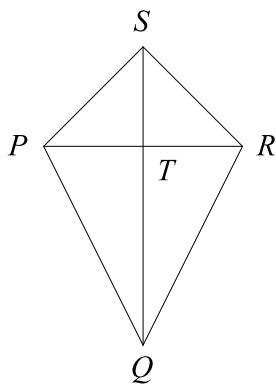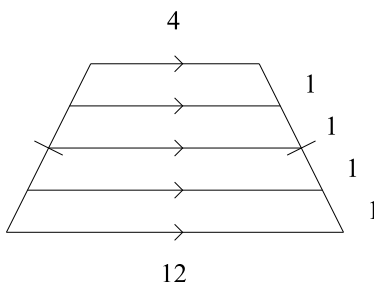# Handout 3: Let's Go Fly A Kite
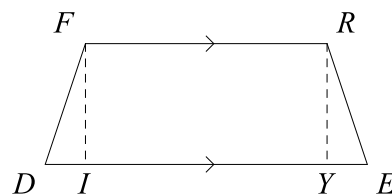

Figure 1

Figure 2

Figure 3

1. Can a trapezoid's bases ever be congruent? Why or why not?

2. How are a kite's diagonals related?

3. Can opposite sides of a kite be congruent? Why or why not?

For problems 4-6, refer to the kite in Figure 1.

4. If $SQ = 11$ m, $PR = 6$ m, and $SR = 5$ m, what is the length of $\overline{PQ}$?

5. If $m\angle PSQ = 50°$ and $m\angle PQS = 45°$, what is the measure of $m\angle SRQ$?

6. If $m\angle PQR = 76°$, what is the measure of $m\angle PRQ$?

Use Figure 2 for questions 7-8.

7. What is the value of y?

8. What are the values of x and z?

Use Figure 3 for questions 9-10.

9. If $m\angle D = 73°$ and $m\angle E = 51°$, what are the measures of $\angle R$ and $\angle F$?

10. If $FR = 7$ km, $DE = 13$ km, $YE = 3$ km, and the height of the trapezoid is 4 km, what is its perimeter?