

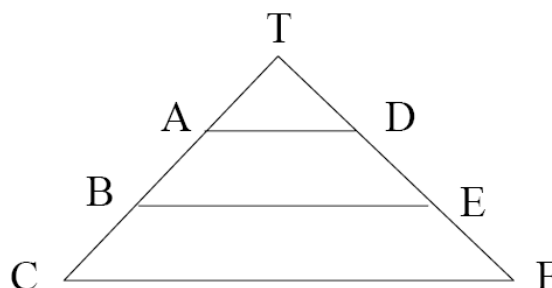
Name: \_\_\_\_\_

## Trapezoids

**Exercise 1:** Two congruent angles of an isosceles trapezoid have measures  $3x + 10$  and  $5x - 10$ . Find the value of  $x$  and then find the measures of all angles of the trapezoid.

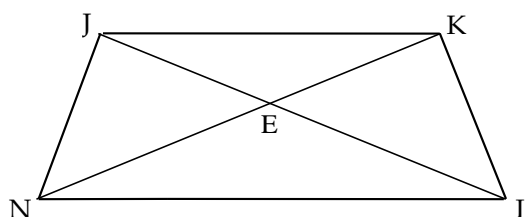
**Exercise 2:**  $TA = AB = BC$  and  $TD = DE = EF$

- 1) Write an equation that relates  $AD$ ,  $BE$  and  $CF$ .
- 2) If  $BE = 26$ , then  $AD = ?$  and  $CF = ?$
- 3) If  $AD = x + 3$ ,  $BE = x + y$  and  $CF = 36$ , then  $x = ?$  and  $y = ?$



- 4) Hala makes up a problem for the figure, setting  $AD = 5$  and  $CF = 17$ . Dima says "You can't do that." Explain.

**Exercise 3:** JKLN is an isosceles trapezoid with bases  $\overline{JK}$  and  $\overline{NL}$ , and  $NE = x + 7$ ,  $JE = x + 5$ ,  $LE = y - 3$ , and  $NK = y + 4$ . Find the numerical value of  $JL$ .



**Exercise 4:** ABCD is a trapezoid with median MN.

Prove that  $EF = \frac{1}{2}(AB - DC)$

