Geometry R – Mr. Bo   Name_____
Unit 2 – Day 1 HW   Date_____

1. Use the Distance Formula; round answers to the nearest tenth.

      a. H(8, 1) and P(3, 5). Find HP.   b. R(-3, 4) and T(-5,-6). Find RP.

2. Use the Midpoint Formula, to find the midpoint of each segment.

      a. $\overline{HP}$, where H(8, 1) and P(3, 5).   b. $\overline{RT}$, where R(-3, 4) and T(-5,-6).
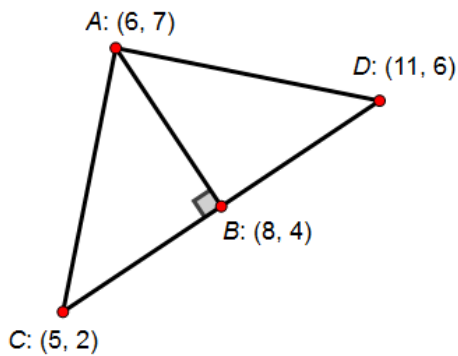
3. Use the Slope Formula, to find the slope of each segment.

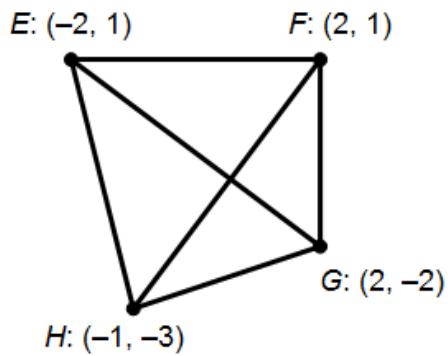   a. $\overline{HP}$, where H(8, 1) and P(3, 5).   b. $\overline{RT}$, where R(-3, 4) and T(-5,-6).

4. $\overline{AB}$ is the altitude of triangle CAD.   a. Find AB, to the nearest tenth.

A: (6, 7)

D: (11, 6)

B: (8, 4)

b. Is point B the midpoint of $\overline{CD}$? Use the midpoint formula to justify a response.

C: (5, 2)

5. The following figure is called a "kite" in geometry.

E: (−2, 1)   F: (2, 1)

G: (2, −2)

H: (−1, −3)
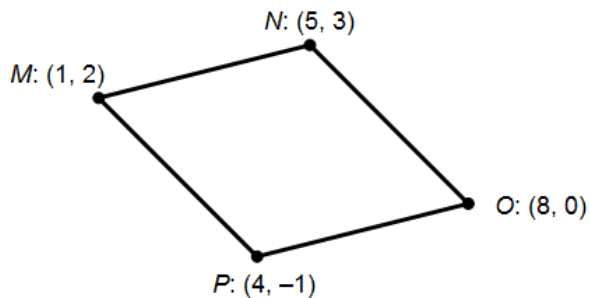
Determine if the following statements about the kite are true or false and justify your answer using the slope formula.

a. $\overline{EH} \, / / \, \overline{FG}$

b. $\overline{EG} \perp \overline{HF}$

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6. Quadrilateral MNOP.

N: (5, 3)

M: (1, 2)

O: (8, 0)

P: (4, −1)

a. Use an appropriate formulas to justify each: $\overline{MP} \, / / \, \overline{NO}$ and $MP = NO$.

b. If quadrilateral MNOP is translated 3 units left and 1 unit down, the resulting image is quadrilateral M'N'O'P'. State the coordinates of quadrilateral M'N'O'P'.

c. Does a translation preserve parallelism? Use the slope formula to justify your response.