Exploring Properties of PARALLELOGRAMS

Part 4

Use everything you’ve observed and learned in this GeoGebra investigation to algebraically determine the value of each indicated segment length and/or angle measure. (Be sure to show all your work!)

1) 

![Diagram of a parallelogram with variables labeled]

- \( x = \)
- \( AB = \)
- \( DC = \)
- \( y = \)
- \( AD = \)
- \( BC = \)

2) 

![Diagram of a parallelogram with angles labeled]

- \( d = \)
- \( 4D = \)
- \( 4B = \)
- \( c = \)
- \( 4I = \)
- \( 4A = \)
3) \[ x = \]
\[ AE = \]
\[ EC = \]
\[ AC = \]
\[ y = \]
\[ BE = \]
\[ DE = \]
\[ BD = \]

4) \[ (12y + 19)° \]
\[ (6y - 1)° \]
\[ \angle A = \]
\[ \angle D = \]
\[ \angle B = \]
\[ \angle C = \]
5)

\[
\begin{align*}
\text{\angle A} &= \text{\angle B} = \text{\angle C} = \text{\angle D} = \\
(4y + 4)° &= (3y - 20)° \\
(2x + 6)° &= (4x)° \\
x &= \\
y &= \\
\angle A &= \\
\angle B &= \\
\angle C &= \\
\angle D &= 
\end{align*}
\]