In each exercise some information is given. Use this information and the diagram provided to name the segments that must be parallel. If there are no such segments, write none.

1) $\angle 2 \cong \angle 9$
2) $\angle 6 \cong \angle 7$
3) $m\angle 1 = m\angle 8 = 90^\circ$
4) $\angle 5 \cong \angle 9$
5) $m\angle 2 = m\angle 5$
6) $\angle 3 \cong \angle 11$
7) $\overline{FC} \perp \overline{AE}$ and $\overline{FC} \perp \overline{BD}$
8) $m\angle 5 + m\angle 6 = m\angle 9 + m\angle 10$
9) $\angle 7$ and $\angle EFB$ are supplementary
10) $m\angle 7 = m\angle 3 = m\angle 10$

Answer the following statement as true or false.

11) Two lines perpendicular to a third line must be parallel.
12) In a plane two lines perpendicular to a third line must be parallel.
13) In a plane two lines parallel to a third line must be parallel.
14) Any two lines parallel to a third line must be parallel.
Find the values of $x$ and $y$ that would make:

15) $\overline{AB} \parallel \overline{CD}$ and $\overline{AC} \parallel \overline{BD}$

\[ (x - 40)^\circ \quad (x + 40)^\circ \]

16) $\overline{AB} \parallel \overline{CD}$ and $\overline{BC} \parallel \overline{DE}$

\[ 3x^\circ \quad 105^\circ \quad 2y^\circ \quad x^\circ \]

Find the measure of $\angle RST$.

17)

\[ 40^\circ \quad 70^\circ \]

18) the three lines coming from $R$, $S$, and $T$ are all parallel

\[ 120^\circ \]

Find the values of $x$ and $y$ that makes the two horizontal lines parallel.

\[ 30^\circ \quad 5y^\circ \quad 2x^\circ \quad (x - y)^\circ \]