FINDING UNKNOWN ANGLE MEASURES—CONGRUENT ANGLES—#4

Directions: Find the measure of each missing angle in the parallel lines and transversals below. Each pair of angles are either vertical angles, alternate angles, or corresponding angles, so they are congruent. All you have to do is set up and solve an equation where the expressions are congruent. Once you’ve solved for $x$, plug that value back into each expression to find the measure of each angle.

1) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{ABC} = ____  \hspace{1cm} \angle{DBG} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{EFB} = ____  \hspace{1cm} \angle{GFH} = ____$

2) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{ABC} = ____  \hspace{1cm} \angle{DBG} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{EFB} = ____  \hspace{1cm} \angle{GFH} = ____$

3) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{ABC} = ____  \hspace{1cm} \angle{AFE} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{CBD} = ____  \hspace{1cm} \angle{CFH} = ____$

4) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{ABC} = ____  \hspace{1cm} \angle{AFE} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{CBD} = ____  \hspace{1cm} \angle{CFH} = ____$

5) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{GH} = ____  \hspace{1cm} \angle{GBD} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{EFG} = ____  \hspace{1cm} \angle{CFH} = ____$

6) [Diagram of parallel lines and transversals]

Equation: ________________

$x = ____$  \hspace{1cm} \angle{GH} = ____  \hspace{1cm} \angle{GBD} = ____  \hspace{1cm} x = ____  \hspace{1cm} \angle{EFG} = ____  \hspace{1cm} \angle{CFH} = ____