3.4 - Perpendicular Lines

1) Assignment Correction and Questions
2) Quick Recap of Unit 3 so far...
3) Notes: Perpendicular Lines
4) Assignment Time

Pg. 166 #10, 22, 30-36, 38, 40, 55, 56
Quick Review of Unit 3 so far..

3.1
- ideas of parallel, intersecting and skew
- names of angle pairs

3.2
IF two parallel lines are cut by a transversal
THEN _____________ angles are ________

3.3
IF a pair of ___________ angles are ________
THEN the lines are parallel

3.4 Perpendicular Lines

Perpendicular Lines
- lines that intersect at a right angle

Perpendicular Bisector
- a line that intersects a segment at a right angle at the segments midpoint

\( \overrightarrow{GH} \) is the perpendicular bisector of \( \overrightarrow{FM} \)

The shortest segment from a point to a line is perpendicular to the line

- any other distance is longer
3.4 Perpendicular Line Properties

If two lines form a linear pair of congruent angles then the lines are perpendicular.

If a line is perpendicular to one of two parallel lines then it is perpendicular to the other line.

If two lines are perpendicular to the same line then they are parallel to each other.

3.4 Perpendicular Lines Examples

Example 1: a) name the shortest segment from point A to line BC
b) write and solve an inequality for x

\[ x - 8 > 12 \]
\[ x > 20 \]
Assignment (Due Friday 10/31)

1) Pg. 176 #10-21, 24, 31-33 (14 and 15)

2) Test Retake?

3) Quarter is over on Wednesday, Nov 5
   (should include all Unit 1, 2, and 3 work)

4) Quiz 3.3-3.4 and HW Summary on Friday