

## Section 1

1. Definition of Perpendicular lines
2. Segment addition postulate
3. Definition of Midpoint
4. Angle addition postulate / Definition of linear pair
5. Definition of a right angle
6. Angle addition postulate
7. Definition of perpendicular lines
8. Midpoint Theorem
9. Definition of Complementary angles
10. Vertical Angles Theorem (Not Definition!!)
11. Transitive Property (or Substitution)
12. Subtraction Property
13. Definition of Angle Bisector
14. Definition of Supplementary Angles
15. Angle Bisector Theorem

## Section 2

$$\begin{aligned} \textcircled{1} \quad 2x-1 + 2x+7 &= 6x-8 \\ 4x+6 &= 6x-8 \\ 14 &= 2x \\ 7 &= x \end{aligned}$$

$$x=7$$

$$DF=13$$

$$FG=21$$

$$DG=34$$

$$13 + 21 = 34$$

$$34 = 34 \quad \checkmark$$

$$\begin{aligned} (2) \quad 14x + 2 + 45x + 1 &= 180 \\ 59x + 3 &= 180 \\ 59x &= 177 \\ x &= 3 \end{aligned}$$

$$\begin{aligned} x &= 3 \\ m\angle MNL &= 44 \\ m\angle LNP &= 136 \\ m\angle MNP &= 180 \end{aligned}$$

$$\begin{aligned} 44 + 136 &= 180 \\ 180 &= 180 \checkmark \end{aligned}$$

$$\begin{aligned} (3) \quad 2x + 6x + 10 &= 90 \\ 8x + 10 &= 90 \\ 8x &= 80 \\ x &= 10 \end{aligned}$$

$$\begin{aligned} x &= 10 \\ m\angle JKM &= 20 \\ m\angle MKL &= 70 \\ m\angle JKL &= 90 \end{aligned}$$

$$\begin{aligned} 20 + 70 &= 90 \checkmark \\ 90 &= 90 \end{aligned}$$

$$(4) \quad 7x - 5 = 6x + 3$$

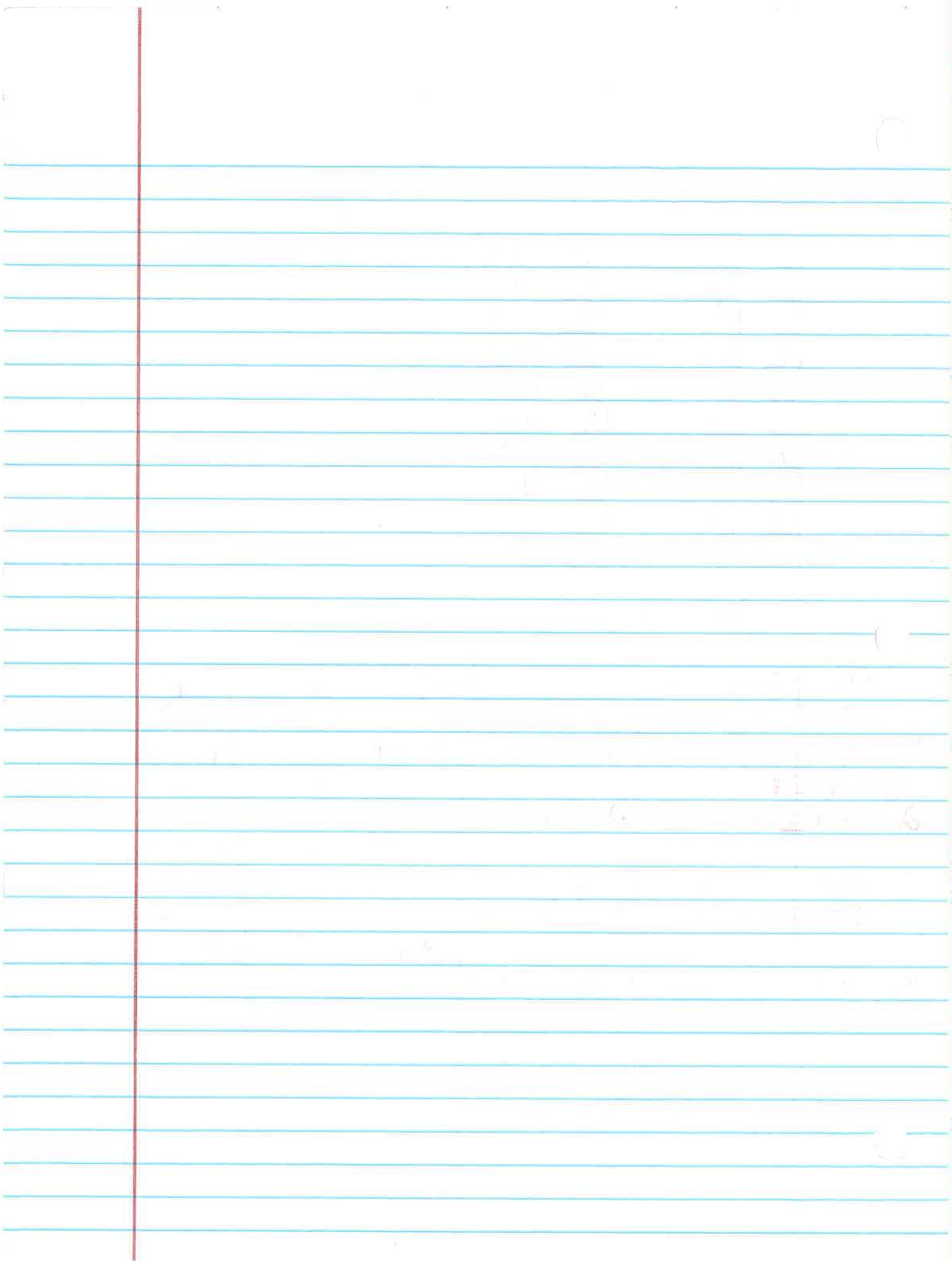
$$\begin{aligned} x &= 8 \\ m\angle QSR &= 51 \\ m\angle TSP &= 51 \checkmark \end{aligned}$$

### Station 3

- |               |               |
|---------------|---------------|
| ① $18^\circ$  | ⑪ $108^\circ$ |
| ② $72^\circ$  | ⑫ $162^\circ$ |
| ③ $18^\circ$  | ⑬ $162^\circ$ |
| ④ $72^\circ$  | ⑭ $180^\circ$ |
| ⑤ $18^\circ$  | ⑮ $108^\circ$ |
| ⑥ $72^\circ$  | ⑯ $162^\circ$ |
| ⑦ $18^\circ$  | ⑰ $108^\circ$ |
| ⑧ $90^\circ$  | ⑱ $90^\circ$  |
| ⑨ $180^\circ$ | ⑲ $180^\circ$ |
| ⑩ $90^\circ$  | ⑳ $90^\circ$  |

### Station 4

① Statement	Reason	② S	R
1. $WE = ST$ <del>WE = ST</del>	1. Given	1. $AB = BD$ $BC = BD$	1. Given
2. $WE + ES = ST + ES$	2. Addition Property	2. $AB = BC$	2. Substitution
3. $WE + ES = WS$ $ST + ES = ET$	3. Segment Addition Postulate	3. B is the midpoint of $\overline{AC}$	3. Definition of Midpoint.
4. $WS = ET$	4. Substitution		





## Station 5

① Statement	Reason
1. $4x + 3y = 2x + 1$ $y = -2$	1. Given
2. $4x - 6 = 2x + 1$	2. Substitution
3. $4x = 2x + 7$	3. Addition Property
4. $2x = 7$	4. Subtraction Property
5. $x = 3.5$	5. Division Property

② Statement	Reason
1. $\angle 1$ and $\angle 3$ are comp.	1. Given
2. $m\angle 1 + m\angle 3 = 90^\circ$	2. Definition of Complementary Angles
3. $m\angle 1 = m\angle 2$	3. Vertical Angles Theorem
4. $m\angle 2 + m\angle 3 = 90^\circ$	4. Substitution
5. $m\angle 2 + m\angle 3 = m\angle DCH$	5. Angle Addition Postulate
6. $m\angle DCH = 90^\circ$	6. Substitution
7. $\angle DCH$ is right	7. Definition of Right Angle
8. $\overline{BH} \perp \overline{DC}$	8. Definition of Perp. Lines

## Station 6

①	Statement	Reason
1.	$\overline{BC} \perp \overline{CD}$	1. Given
2.	$\angle BCD$ is a right $\angle$	2. Definition of perpendicular lines
3.	$m\angle BCD = 90^\circ$	3. Definition of Right Angle
4.	$m\angle BCF + m\angle FCD = m\angle BCD$	4. Angle Addition Postulate
5.	$m\angle BCF + m\angle FCD = 90^\circ$	5. Substitution
6.	$\angle BCF$ and $\angle FCD$ are complementary	6. Definition of Complementary Angles

②	Statement	Reason
1.	$\angle 2 \cong \angle 3$	1. Given
2.	$\angle 3 \cong \angle 4$	2. Vertical Angle Theorem
3.	$\angle 2 \cong \angle 4$	3. Substitution
4.	$\angle 4 \cong \angle 5$	4. Given
5.	$\angle 2 \cong \angle 5$	5. Substitution