

Fill in the missing reasons for each proof.

1. Given: $4x + 5 = 29$
Prove: $x = 6$

Statements	Reasons
1) $4x + 5 = 29$	1)
2) $4x = 24$	2)
3) $x = 6$	3)

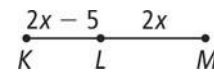
2. Given: $2(x - 3) = 8$
Prove: $x = 7$

Statements	Reasons
1. $2(x - 3) = 8$	1.
2. $2x - 6 = 8$	2.
3. $2x = 14$	3.
4. $x = 7$	4.

3. Given: $3x - 4 = \frac{1}{2}x + 6$
Prove: $x = 4$

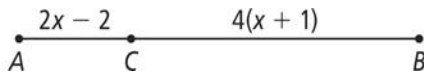
Statements	Reasons
1. $3x - 4 = \frac{1}{2}x + 6$	1.
2. $\frac{5}{2}x - 4 = 6$	2.
3. $\frac{5}{2}x = 10$	3.
4. $x = 4$	4.

4. Given: $KM = 35$
Prove: $x = 10$



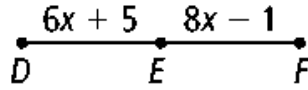
Statements	Reasons
1. $KM = 35$	1.
2. $\overline{KL} + \overline{LM} = \overline{KM}$	2.
3. $2x - 5 + 2x = 35$	3.
4. $4x - 5 = 35$	4.
5. $4x = 40$	5.
6. $x = 10$	6.

5. Given: $AB = 50$
Prove: $x = 8$



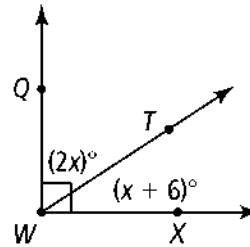
Statements	Reasons
1.	1. Given
2. $AC + CB = AB$	2.
3.	3. Substitution
4. $2x - 2 + 4x + 4 = 50$	4.
5. $6x + 2 = 50$	5.
6.	6. Subtraction Property
7. $x = 8$	7.

6. **Given:** E is the midpoint of \overline{DF}
Prove: $x = 3$



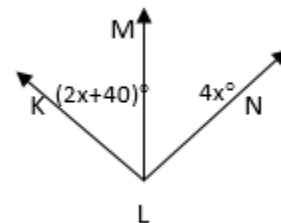
Statements	Reasons
1.) E is the midpoint of \overline{DF}	1.)
2.) $\overline{DE} \cong \overline{EF}$	2.)
3.)	3.) Definition of Congruent Segments
4.)	4.) Substitution
5.) $8x - 1 = 6x + 5$	5.)
6.) $2x - 1 = 5$	6.)
7.)	7.) Addition Property
8.)	8.) Division Property

7. **Given:** $\angle QWT$ and $\angle TWX$ are complementary
Prove: $x = 28$



Statements	Reasons
1.	1.
2. $m\angle QWT + m\angle TWX = 90$	2.
3.	3. Substitution
4. $3x + 6 = 90$	4.
5.	5. Subtraction Prop of =
6. $x = 28$	6.

8. **Given:** \overline{LM} bisects $\angle KLN$
Prove: $x = 20$



Statements	Reasons
1. \overline{LM} bisects $\angle KLN$	1.
2. $\angle KLM \cong \angle MLN$	2.
3. $m\angle KLM = m\angle MLN$	3.
4.	4. Substitution
5. $40 = 2x$	5.
6. $20 = x$	6.
7. $x = 20$	7.