Supply the missing reasons for each of the following:

1.



|  |  |
| --- | --- |
| Statements | Reasons |
| $$8x-5=2x+1$$ |  |
| $$6x-5=1$$ |  |
| $$6x=6$$ |  |
| $$x=1$$ |  |

Q.E.D.

2.

 

|  |  |
| --- | --- |
| Statements | Reasons |
| $$m∡ABC+m∡CBD=90$$ |  |
| $$m∡ABC=3x-5, m∡CBD=\frac{x+1}{2}$$ |  |
| $$3x-5+\frac{x+1}{2}=90$$ |  |
| $$6x-10+x+1=180$$ |  |
| $$7x-9=180$$ |  |
| $$7x=189$$ |  |
| $$x=27$$ |  |

Q.E.D.

3.



|  |  |
| --- | --- |
| Statements | Reasons |
| $$\overbar{SU}≅\overbar{LR},\overbar{TU}≅\overbar{LN}$$ |  |
| $$SU=LR, TU=LN$$ |  |
| $$S-T-U, L-N-R$$ | Given Sketch |
| $$SU=ST+TU$$$$LR=LN+NR$$ |  |
| $$LN+NR=ST+TU$$ |  |
| $$LN+NR=ST+LN$$ |  |
| $$NR=ST$$ |  |
| $$ST=NR$$ |  |
| $$\overbar{ST}≅\overbar{NR}$$ |  |

Q.E.D.

4.



|  |  |
| --- | --- |
| Statements | Reasons |
| $$\overbar{AB}≅\overbar{DE}$$ |  |
| $$AB= DE$$ |  |
| $$B is the midpoint of \overbar{AC}$$ |  |
| $$AB=BC$$ |  |
| $$BC=DE$$ |  |
| $$E is the midpoint of \overbar{DF}$$ |  |
| $$DE=EF$$ |  |
| $$BC=EF$$ |  |
| $$BC≅\overbar{EF}$$ |  |

Q.E.D.

5.

 

|  |  |
| --- | --- |
| Statements | Reasons |
| $$A-B-C$$ |  |
| $$AB+BC=AC$$ |  |
| $$B-C-D$$ |  |
| $$BC +CD=BD$$ |  |
| $$AB=CD$$ |  |
| $$BC=BC$$ |  |
| $$AB+BC=CD+BC$$ |  |
| $$AC=BD$$ |  |

Q. E. D.