**Math 3**

**Congruent Triangle Proofs**

**Homework**

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 **Name**

**Fill in the reasons.**

1. Statements Reasons

1. EF $∥$ GH, EF $≅$ GH 1.

2. $∠$FEK $≅$ $∠$GHK 2.

3. $∠$EKF $≅$ $∠HKG$ 3.

4. $∆$ EFK $≅$ $∆$HGK 4.

5. EK $≅$ HK 5.

2.  Statements Reasons

 1. DE $∥$ JK, DK bisects JE 1.

 2. $∠KJG$ $≅$ $∠DEG$ 2.

 3. EG $≅$ JG 3.

 4. $∠DGE$ $≅$ $∠KGJ$ 4.

 5. $∆$EGD $≅$ $∆$JGK 5.

3. Statements Reasons

  1. $∠$V $≅$ $∠$S, TV $≅$ QS 1.

 2. $∠$1 $≅∠$2 2.

 3. $∆$VRT $≅$ $∆$SRQ 3.

 4. VR $≅$ SR 4.

4. Statements Reasons 1. EJ $∥$ FK, JG $∥$ KH, 1.

 EF $≅$ GH

 2. $∠$JEG $≅$ $∠$KHF 2.

 $∠$JGE $≅$ $∠$KHF

 3. FG $≅$ FG 3.

 4. EF = GH, FG = FG 4.

 5. EF+FG=EG 5.

 FG+GH=FH

 6. FG+EF=FH 6.

 7. EG=FH 7.

 8. EG $≅$ FH 8.

 9. $∆$EJG $≅$ $∆$FKH 9.

5. Statements Reasons  1. $∠$NOM $≅$ $∠$POR 1.

 NM $⊥$ MR, PR $⊥$ MR

 NM $≅$ PR

 2. $∠$NMO and $∠$PRO are rt angles 2.

 3. $∠$ NMO $≅$ $∠$PRO 3.

 4. $∆$MNO $≅$ $∆$RPO 4.

 5. MO$≅$ OR 5.

6.  Statements Reasons

 1. DL bisects BN 1.

 $∠$XLN $≅$ $∠$XDB

 2. BX $≅$ NX 2.

 3. $∠$BXD $≅$ $∠$NXL 3.

 4. $∆$LXN $≅$ $∆$DXB 4.

 5. LN $≅$ DB 5.