4.3 Proving Triangles Congruent

Examples

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Given: $\overbar{TV}≅\overbar{QT}$

$$\vec{TC} bisects \overbar{QV}$$

Prove: $∆QTC≅∆VTC$

T

Q

C

V

1. Given: $\overbar{BD}is perpendicular to \overbar{AC}$

Prove: $∆ABC≅∆CBD$

B

A

D

C

$$\vec{BD} bisects \overbar{AC}$$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

1. Given: 

 

Prove: 



G

K

M

N

1. Given: $\overbar{GK}≅\overbar{ML}, <GKM≅<LMK$

Prove: $∆GKM≅∆LMK$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

S

T

R

X

1. Given: $\overbar{XT} bisects \overbar{SR}, <S≅<R$

Prove: $∆SXT≅∆RXT$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



1. Given: 

 

 

Prove: ∆GOJ ∆KMH

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |



4.4 Proving Triangles Congruent

Examples

1. Given: $\overbar{YW}is perpendicular to \overbar{XZ}$

$$<XYW≅ <ZYW$$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

Prove: $∆XWY≅∆ZWY$

Y

X

W

Z

1. Given: $\overbar{IG}is perpendicular to \overbar{HJ}$

$$<IHJ≅ <IJH$$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |

Prove: $∆HGI≅∆JGI$

I

H

G

J

1. Given: 

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

  bisects ∠ADC

 Prove: ∆ABD ≅ ∆CBD



1.  Given:

Prove: ∆ABC ∆EDC

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  | EABCD |

1. Given: $B is the midpoint of \overbar{ED} and \overbar{AC}$

Prove: $∆BAE≅∆BCD$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  | BA |

1. Given: $\overbar{AB}//\overbar{DC}$

$\overbar{AD}//\overbar{BC}$

C

D

 Prove: $\overbar{AD}≅\overbar{BC}$

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |