

Triangle Inequality Theorem

State if the three numbers can be the measures of the sides of a triangle.

1) 6, 6, 5

2) 3, 10, 7

3) 7, 2, 5

4) 2, 8, 5

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 25, 38

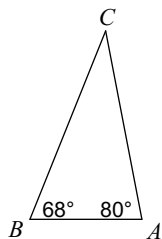
6) 28, 40

7) 45, 40

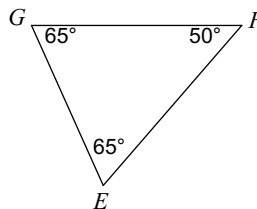
8) 50, 33

Order the sides of each triangle from shortest to longest.

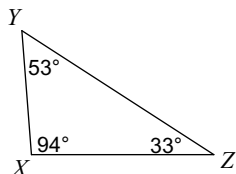
9)



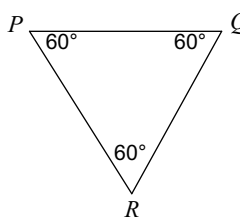
10)



11)

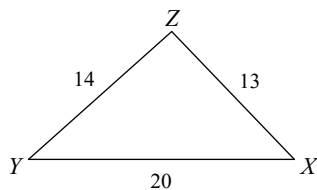


12)

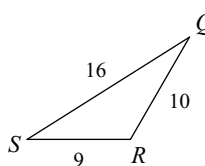


Order the angles in each triangle from smallest to largest.

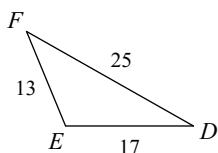
13)



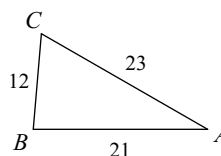
14)



15)



16)



Answers to Triangle Inequality Theorem (ID: 1)

- | | | | |
|--|--|---|------------------------------------|
| 1) Yes | 2) No | 3) No | 4) No |
| 5) $13 < x < 63$ | 6) $12 < x < 68$ | 7) $5 < x < 85$ | 8) $17 < x < 83$ |
| 9) $\overline{AB}, \overline{AC}, \overline{BC}$ | 10) $\overline{GE}; \overline{FE}$ and $\overline{GF}$ | 11) $\overline{XY}, \overline{XZ}, \overline{YZ}$ | 12) All sides are equal |
| 13) $\angle Y, \angle X, \angle Z$ | 14) $\angle Q, \angle S, \angle R$ | 15) $\angle D, \angle F, \angle E$ | 16) $\angle A, \angle C, \angle B$ |

Triangle Inequality Theorem

State if the three numbers can be the measures of the sides of a triangle.

1) 12, 8, 9

2) 9, 9, 18

3) 7, 5, 2

4) 9, 5, 9

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 44, 31

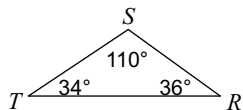
6) 32, 40

7) 39, 36

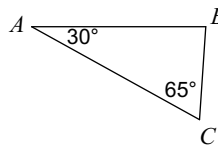
8) 45, 39

Order the sides of each triangle from shortest to longest.

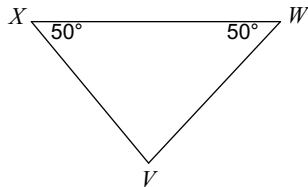
9)



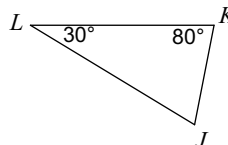
10)



11)

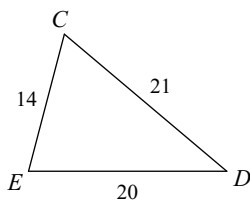


12)

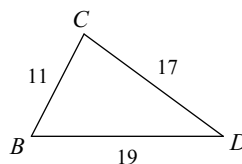


Order the angles in each triangle from smallest to largest.

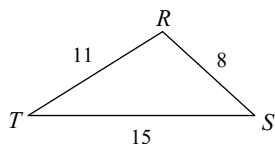
13)



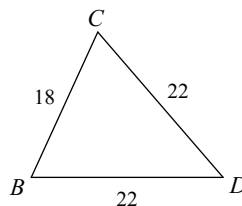
14)



15)



16)



Answers to Triangle Inequality Theorem (ID: 2)

1) Yes

5) $13 < x < 75$

9) $\overline{SR}, \overline{TS}, \overline{TR}$

13) $\angle D, \angle C, \angle E$

2) No

6) $8 < x < 72$

10) $\overline{BC}, \overline{AB}, \overline{AC}$

14) $\angle D, \angle B, \angle C$

3) No

7) $3 < x < 75$

11) $\overline{WV}$ and $\overline{XV}; \overline{XW}$

15) $\angle T, \angle S, \angle R$

4) Yes

8) $6 < x < 84$

12) $\overline{KJ}, \overline{LK}, \overline{LJ}$

16) $\angle D; \angle B$ and $\angle C$

Triangle Inequality Theorem

State if the three numbers can be the measures of the sides of a triangle.

1) 10, 10, 22

2) 17, 8, 9

3) 1, 7, 8

4) 5, 7, 5

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 39, 42

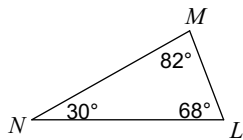
6) 34, 30

7) 40, 46

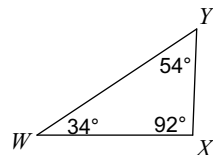
8) 30, 40

Order the sides of each triangle from shortest to longest.

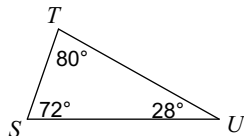
9)



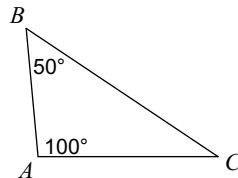
10)



11)

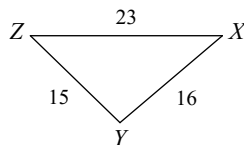


12)

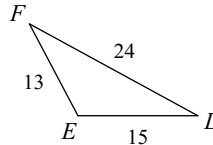


Order the angles in each triangle from smallest to largest.

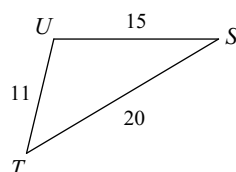
13)



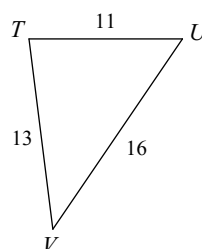
14)



15)



16)



Answers to Triangle Inequality Theorem (ID: 3)

1) No

5) $3 < x < 81$

9) $\overline{ML}, \overline{NM}, \overline{NL}$

13) $\angle X, \angle Z, \angle Y$

2) No

6) $4 < x < 64$

10) $\overline{YX}, \overline{XW}, \overline{YW}$

14) $\angle D, \angle F, \angle E$

3) No

7) $6 < x < 86$

11) $\overline{ST}, \overline{TU}, \overline{SU}$

15) $\angle S, \angle T, \angle U$

4) Yes

8) $10 < x < 70$

12) $\overline{AB}, \overline{AC}, \overline{BC}$

16) $\angle V, \angle U, \angle T$

Triangle Inequality Theorem

Date _____ Period _____

State if the three numbers can be the measures of the sides of a triangle.

1) 7, 18, 9

2) 10, 9, 10

3) 10, 13, 10

4) 9, 6, 15

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 27, 33

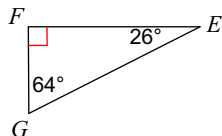
6) 37, 32

7) 25, 47

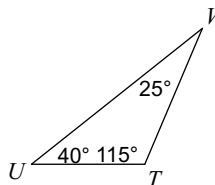
8) 46, 37

Order the sides of each triangle from shortest to longest.

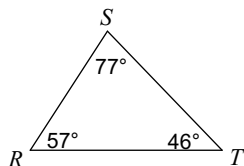
9)



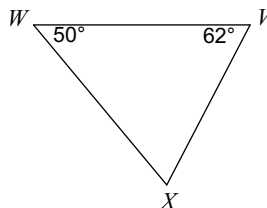
10)



11)

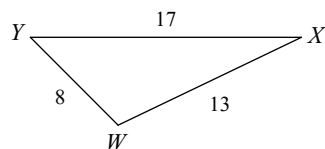


12)

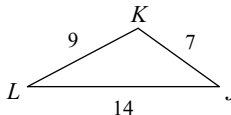


Order the angles in each triangle from smallest to largest.

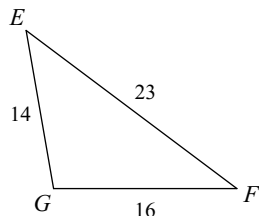
13)



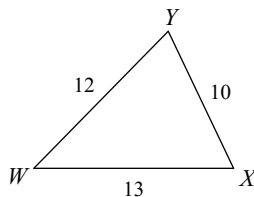
14)



15)



16)



Answers to Triangle Inequality Theorem (ID: 4)

1) No

5) $6 < x < 60$

9) $\overline{GF}, \overline{FE}, \overline{GE}$

13) $\angle X, \angle Y, \angle W$

2) Yes

6) $5 < x < 69$

10) $\overline{TU}, \overline{TV}, \overline{UV}$

14) $\angle L, \angle J, \angle K$

3) Yes

7) $22 < x < 72$

11) $\overline{RS}, \overline{ST}, \overline{RT}$

15) $\angle F, \angle E, \angle G$

4) No

8) $9 < x < 83$

12) $\overline{XV}, \overline{XW}, \overline{WV}$

16) $\angle W, \angle X, \angle Y$

Triangle Inequality Theorem

State if the three numbers can be the measures of the sides of a triangle.

1) 5, 2, 8

2) 4, 6, 10

3) 5, 13, 7

4) 8, 9, 1

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 29, 41

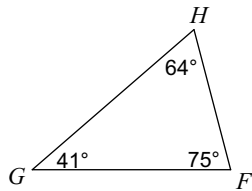
6) 37, 44

7) 35, 33

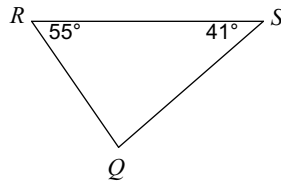
8) 37, 34

Order the sides of each triangle from shortest to longest.

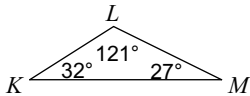
9)



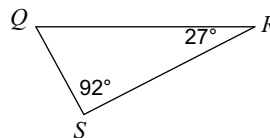
10)



11)

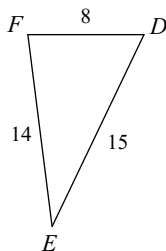


12)

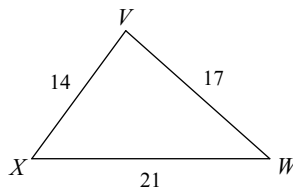


Order the angles in each triangle from smallest to largest.

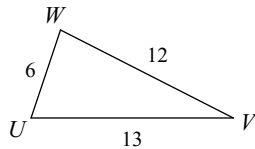
13)



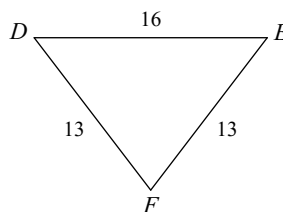
14)



15)



16)



Answers to Triangle Inequality Theorem (ID: 5)

1) No

5) $12 < x < 70$

9) $\overline{FH}, \overline{FG}, \overline{GH}$

13) $\angle E, \angle D, \angle F$

2) No

6) $7 < x < 81$

10) $\overline{QR}, \overline{QS}, \overline{RS}$

14) $\angle W, \angle X, \angle V$

3) No

7) $2 < x < 68$

11) $\overline{KL}, \overline{LM}, \overline{KM}$

15) $\angle V, \angle U, \angle W$

4) No

8) $3 < x < 71$

12) $\overline{QS}, \overline{RS}, \overline{QR}$

16) $\angle D$ and $\angle E$; $\angle F$