Assignment #31a Name_____ ID: 1

Triangle Inequality Theorem

Date_____ Period____

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

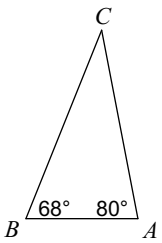
6) 28, 40

7) 45, 40

8) 50, 33

Order the sides of each triangle from shortest to longest.

9)



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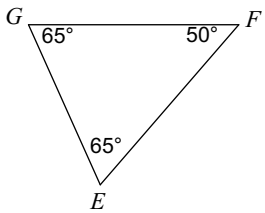

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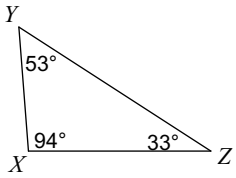

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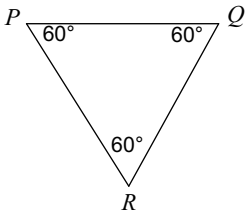
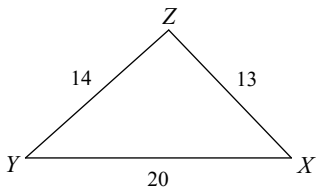


Order the angles in each triangle from smallest to largest.

13)



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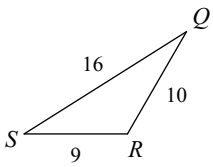

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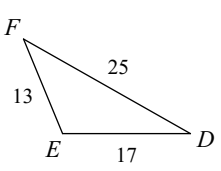

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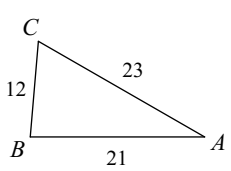


Answers to Triangle Inequality Theorem (ID: 1)

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) $\angle A, \angle C, \angle B$

Assignment #31a Name_____ ID: 2

Triangle Inequality Theorem

Date_____ Period____

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

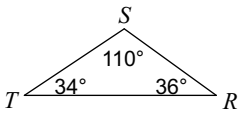
6) 32, 40

7) 39, 36

8) 45, 39

Order the sides of each triangle from shortest to longest.

9)



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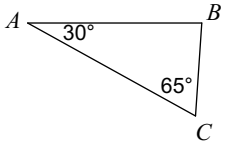

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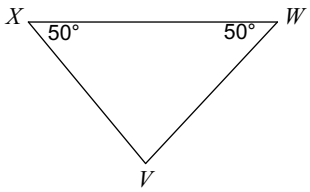

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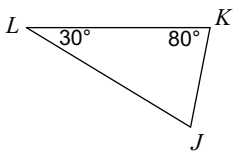
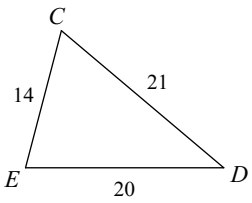


Order the angles in each triangle from smallest to largest.

13)



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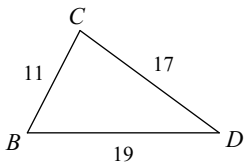

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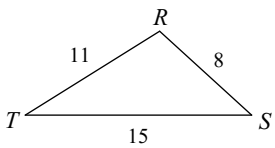

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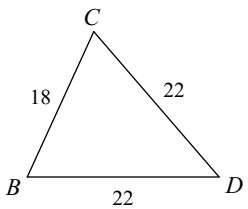


Answers to Triangle Inequality Theorem (ID: 2)

1) Yes
2) No
3) No
4) Yes
5) $13 < x < 75$
6) $8 < x < 72$
7) $3 < x < 75$
8) $6 < x < 84$
9) $\overline{SR}, \overline{TS}, \overline{TR}$
10) $\overline{BC}, \overline{AB}, \overline{AC}$
11) $\overline{WV}$ and $\overline{XV}$; $\overline{XW}$
12) $\overline{KJ}, \overline{LK}, \overline{LJ}$
13) $\angle D, \angle C, \angle E$
14) $\angle D, \angle B, \angle C$
15) $\angle T, \angle S, \angle R$
16) $\angle D$; $\angle B$ and $\angle C$

Assignment #31a Name_____ ID: 3

Triangle Inequality Theorem

Date_____ Period____

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

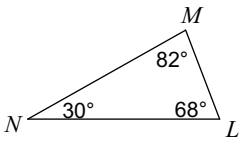
6) 34, 30

7) 40, 46

8) 30, 40

Order the sides of each triangle from shortest to longest.

9)



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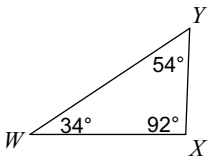

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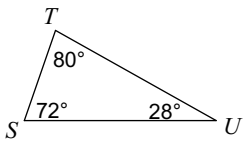

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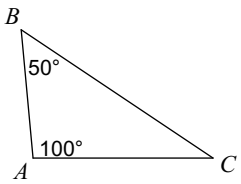
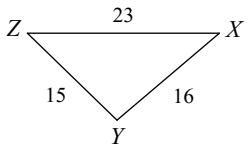


Order the angles in each triangle from smallest to largest.

13)



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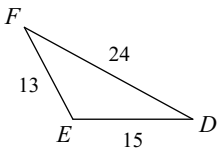

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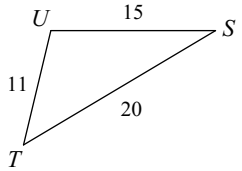

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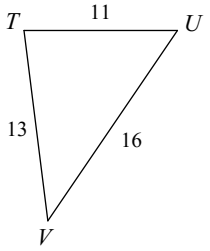


Answers to Triangle Inequality Theorem (ID: 3)

1) No
2) No
3) No
4) Yes
5) $3 < x < 81$
6) $4 < x < 64$
7) $6 < x < 86$
8) $10 < x < 70$
9) $\overline{ML}, \overline{NM}, \overline{NL}$
10) $\overline{YX}, \overline{XW}, \overline{YW}$
11) $\overline{ST}, \overline{TU}, \overline{SU}$
12) $\overline{AB}, \overline{AC}, \overline{BC}$
13) $\angle X, \angle Z, \angle Y$
14) $\angle D, \angle F, \angle E$
15) $\angle S, \angle T, \angle U$
16) $\angle V, \angle U, \angle T$

Assignment #31a Name_____ ID: 4

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

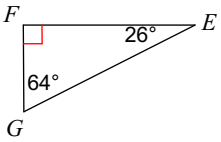
6) 37, 32

7) 25, 47

8) 46, 37

Order the sides of each triangle from shortest to longest.

9)



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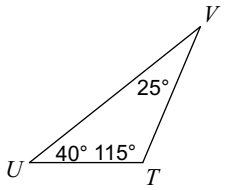
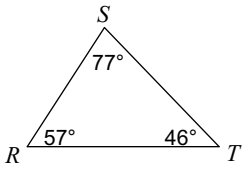


11)



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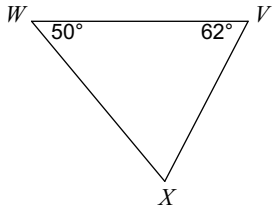
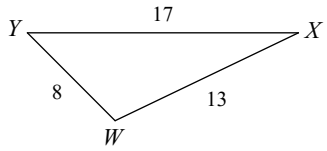


Order the angles in each triangle from smallest to largest.

13)



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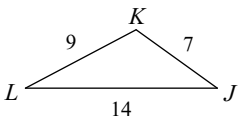

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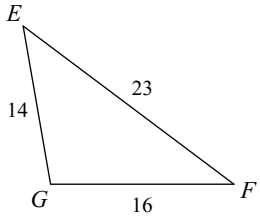

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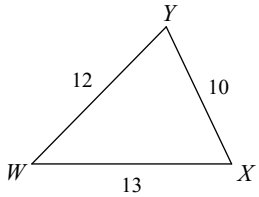


Answers to Triangle Inequality Theorem (ID: 4)

1) No
2) Yes
3) Yes
4) No
5) $6 < x < 60$
6) $5 < x < 69$
7) $22 < x < 72$
8) $9 < x < 83$
9) $\overline{GF}, \overline{FE}, \overline{GE}$
10) $\overline{TU}, \overline{TV}, \overline{UV}$
11) $\overline{RS}, \overline{ST}, \overline{RT}$
12) $\overline{XV}, \overline{XW}, \overline{WV}$
13) $\angle X, \angle Y, \angle W$
14) $\angle L, \angle J, \angle K$
15) $\angle F, \angle E, \angle G$
16) $\angle W, \angle X, \angle Y$

Assignment #31a Name_____ ID: 5

Triangle Inequality Theorem

Date_____ Period____

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

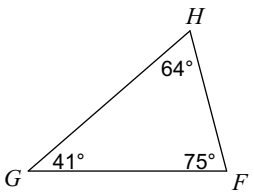
6) 37, 44

7) 35, 33

8) 37, 34

Order the sides of each triangle from shortest to longest.

9)



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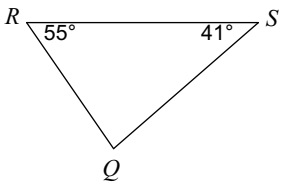

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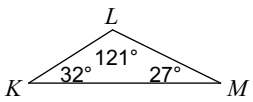

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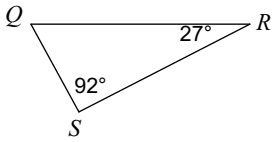
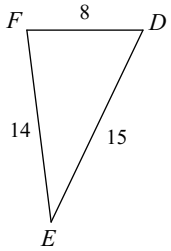


Order the angles in each triangle from smallest to largest.

13)



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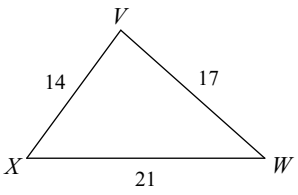

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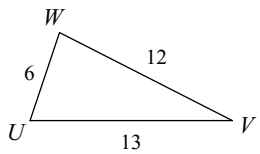

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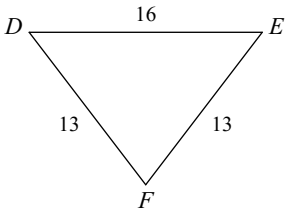

Answers to Triangle Inequality Theorem (ID: 5)

1) No
2) No
3) No
4) No
5) $12 < x < 70$
6) $7 < x < 81$
7) $2 < x < 68$
8) $3 < x < 71$
9) $\overline{FH}, \overline{FG}, \overline{GH}$
10) $\overline{QR}, \overline{QS}, \overline{RS}$
11) $\overline{KL}, \overline{LM}, \overline{KM}$
12) $\overline{QS}, \overline{RS}, \overline{QR}$
13) $\angle E, \angle D, \angle F$
14) $\angle W, \angle X, \angle V$
15) $\angle V, \angle U, \angle W$
16) $\angle D$ and $\angle E$; $\angle F$