

27.

Key is to solve for x in the inequality
Third side or Second side = x

$$3 + 7 > x$$

$$10 > x$$

Third side
is greater
than 10

$$\begin{array}{r} 3 + x > 7 \\ -3 \quad -3 \\ \hline \end{array}$$

$$x > 4$$

↑

Third side is
greater than
4

$$\begin{array}{r} x + 7 > 3 \\ -7 \quad -7 \\ \hline \end{array}$$

$$x > -4$$

↑

A side of a triangle
cannot be negative.

$$4 < x < 10$$

29. $15 + 12 > x$

$$27 > x$$

$$15 + x > 12$$

$$\begin{array}{r} 15 + x > 12 \\ -15 \quad -15 \\ \hline \end{array}$$

$$x > -3$$

$$12 + x > 15$$

$$\begin{array}{r} 12 + x > 15 \\ -12 \quad -12 \\ \hline \end{array}$$

$$x > 3$$

$$3 < x < 27$$

30 ① Establish Cases

First side = 13

Second side = x

Third side = 6

Third side = 32

$$\begin{array}{r} 13 + x > 6 \\ -13 \quad -13 \\ \hline \end{array}$$

$$x > -7$$

2nd side greater
than -7

$$\begin{array}{r} 13 + x > 32 \\ -13 \quad -13 \\ \hline \end{array}$$

$$x > 19$$

2nd side greater
than 19

$$-7 < x < 19$$