

## 1) Diagrams and notation

Given the points  $P$  and  $Q$ , draw ray  $\overrightarrow{QP}$ .

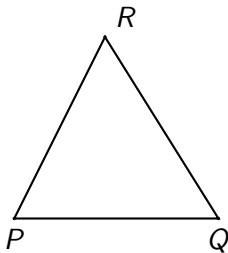
$\bullet$   
 $P$

$\bullet$   
 $Q$

### 3) Diagrams and notation

Given isosceles  $\triangle PQR$  with  $\overline{PQ} \cong \overline{PR}$ .

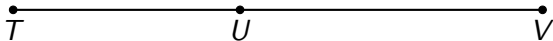
On the diagram mark the congruent line segments with tick marks.



#### 4) Applying the segment addition postulate

Given  $\overline{TUV}$ ,  $UV = 5.4$ , and  $TV = 8.3$ . Find  $TU$ .

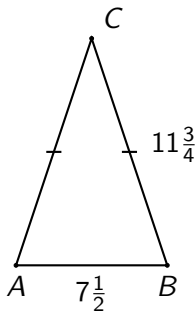
Show your work by marking the diagram and writing an equation.



## 5) Applying the segment addition postulate

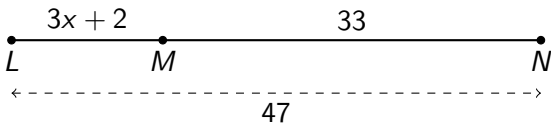
Find the perimeter of the isosceles  $\triangle ABC$ , given  $\overline{AC} \cong \overline{BC}$ ,  $AB = 7\frac{1}{2}$ , and  $BC = 11\frac{3}{4}$

Show your work with an equation for full credit.



## 6) Applying the segment addition postulate

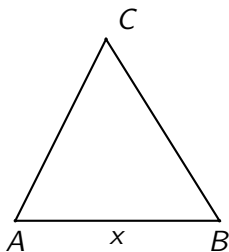
Given  $\overline{LMN}$ ,  $LM = 3x + 2$ ,  $MN = 33$ ,  $LN = 47$ . Find  $x$ .



1. Write down an equation to represent the situation.
2. Solve for  $x$ .
3. Check your answer.

## 7) Applying the segment addition postulate

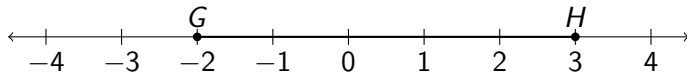
Given equilateral  $\triangle ABC$  having perimeter of 14. Find the length of side  $\overline{AB}$ ,  $x$ .



## 8) Finding lengths on the number line

Given  $G(-2)$  and  $H(3)$ , as shown on the number line.

Find the length of the line segment  $\overline{GH}$ .



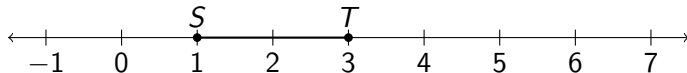
State an equation and the solution.

Check your work by counting the distance. Leave marks to show your work.

## 9) Finding lengths on the number line (spicy)

Given  $S(1)$  and  $T(3)$ , as shown on the number line.

Find point  $R$ , given that point  $S$  bisects  $\overline{RT}$ . Plot and label  $R$  on the number line.





## 10) Applying the segment addition postulate

Given  $M$  is the midpoint of  $\overline{AB}$ ,  $AM = 2x + 5$ ,  $MB = 13$ .

1. Mark the diagram with the values and tick marks
2. Write an equation and solve for  $x$
3. Check your result



## 12) Applying the segment addition postulate

The points  $Q$  and  $R$  trisect the line segment  $\overline{PS}$ .  $PS = 13\frac{1}{2}$ .

1. Mark and label the approximate locations of  $Q$  and  $R$ .
2. Find  $PQ$ . State an equation for full credit.

