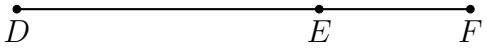
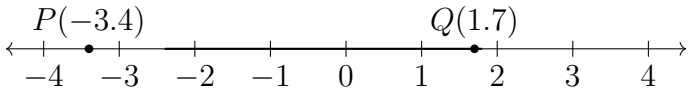
1.7 Extension Quiz: Absolute value, trisection, algebra

All algebraic solutions require a check for full credit.

1. Given $\overline{DEF}$, $DE = 3\frac{2}{3}$, and $EF = 1\frac{2}{3}$. Find DF.



2. Given $P(-3.4)$ and $Q(1.7)$, as shown on the number line. Find the length of the line segment $\overline{PQ}$.



3. Given $x = -3$ simplify each expression.

   (a) $|x - 2| =$

   (b) $|-1 - x| =$

   (c) $|x - 1| + |x| =$

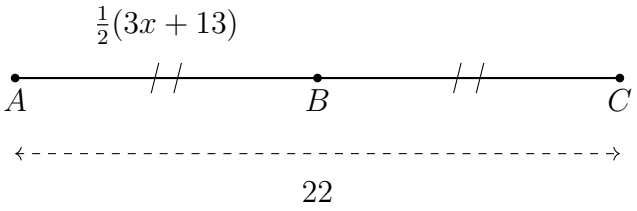
   (d) $3 \times |-x| + x =$

4. Find all values of x satisfying the equation. (show the two cases for each problem)

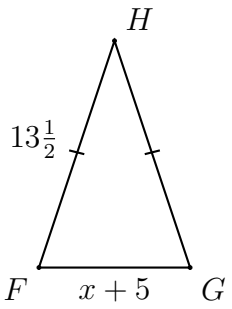
   (a) $|2x| = 8$

   (b) $|x - 2| + 2 = 7$

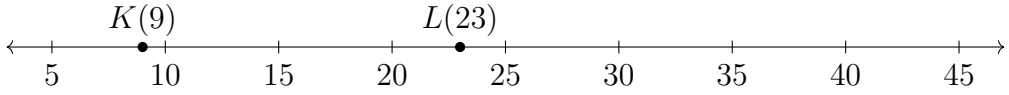
5. The segment $\overline{AC}$ is bisected by point B, $AB = \frac{1}{2}(3x + 13)$ and $AC = 22$. Find x.



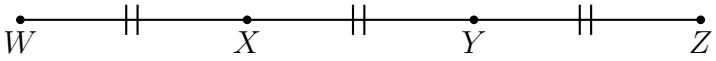
6. The perimeter of the isosceles $\triangle FGH$ is 35 with $\overline{FH} \cong \overline{GH}$. If $FG = x + 5$ and $FH = 13\frac{1}{2}$, find x.



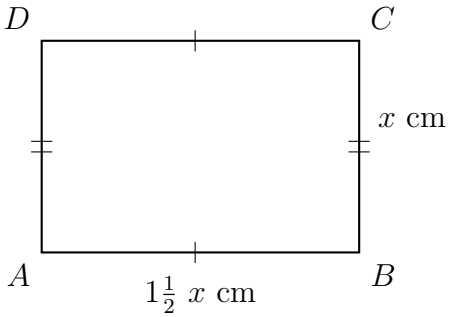
7. Given points $K(9)$ and $L(23)$, find the value of M such that L is the bisector of $\overline{KM}$. Mark M and label it with its value on the number line.



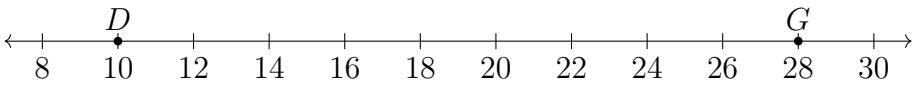
8. The points X and Y trisect the line segment $\overline{WZ}$, as shown below. If $WY = 14$, find WZ.



9. The perimeter of rectangle $ABCD$ is 70 centimeters and its length is one and a half times its width. Find the rectangle's dimensions.

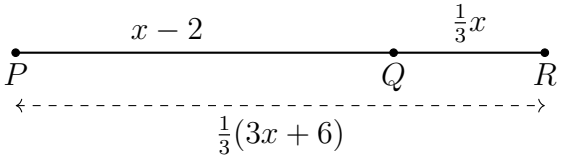


10. Given $\overleftrightarrow{DG}$ as shown on the number line, with $D = 10$ and $G = 28$.

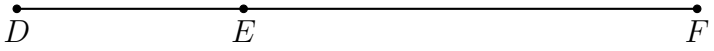


Points E and F trisect $\overline{DG}$. Find the values of E and F and mark and label them on the number line $\overleftrightarrow{DG}$.

11. Given $\overline{PQR}$, $PQ = x - 2$, $QR = \frac{1}{3}x$, $PR = \frac{1}{3}(3x + 6)$. Find x.



12. Given $\overline{DEF}$, $DF = 75$ and $\overline{DE}$ is half the length of $\overline{EF}$. Find DE.



Academic integrity pledge

This assignment must be completed in one sitting. Use your notes and a calculator.

I have not received any human help on this assignment.

Signed: _____ _____

Date, start time - end time