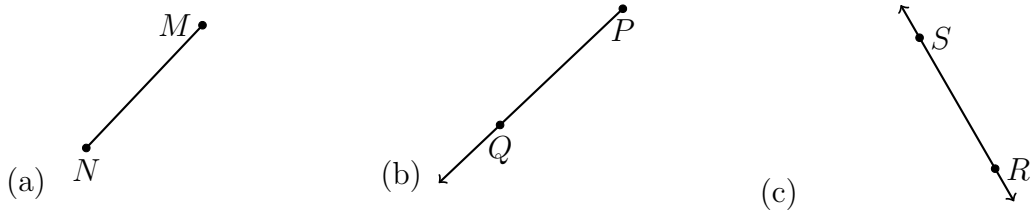
1.7 Exit Note Quiz: Length and perimeter, geometric notation

A. Conventions: terminology, notation, diagramming

1. Use symbols to write the name of each geometric figure.



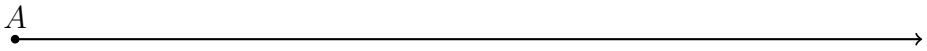
2. Objects in the same plane are _____.

3. A word that means that two lines cross is that they _____.

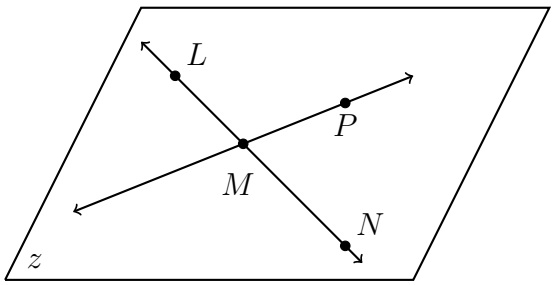
4. Write the symbol that means congruent.

5. Two things that are next to each other are _____.

6. Mark point B on the ray exactly 5 centimeters from the endpoint A. (measure it)



7. Various objects are depicted. Circle True or False for each statement.



(a) T F The line $\overleftrightarrow{MP}$ is shown.

(b) T F The plane is labeled p.

(c) T F $\overrightarrow{LM}$ and $\overrightarrow{NM}$ are opposite rays.

(d) T F M is the intersection of two lines.

8. Given the expression $\frac{2}{3}x$, write down each:

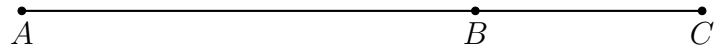
(a) The fraction's numerator

(b) The variable

B. Modeling situations with algebra

9. Collinear points are shown below, $\overline{ABC}$.

   (a) Measure and label the lengths AB and BC to the nearest centimeter.

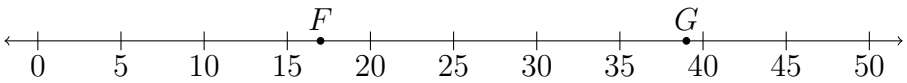


   (b) Write an equation employing the Segment Addition Postulate.

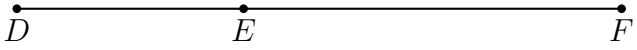
   (fill in the blanks with values in centimeters)

   $AB =$ _____ + _____ = _____

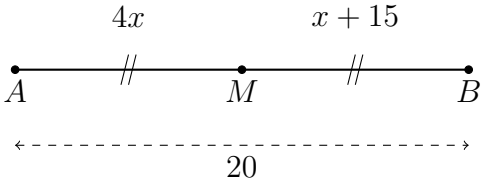
10. Points $F = 17$ and $G = 39$ are shown below. Find FG.



11. Given $\overline{DEF}$, $DE = 5\frac{3}{4}$, and $EF = 8\frac{1}{2}$. Find DF as a mixed fraction.



12. As diagrammed below, point M is the midpoint of $\overline{AB}$, $AM = 4x$, $MB = x + 15$, $AB = 20$. Circle True or False for each equation.



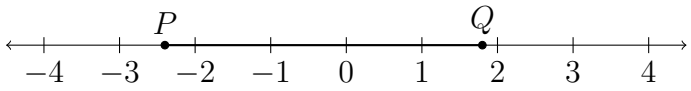
(a) T F $4x = x + 15$

(b) T F $4x = 20$

(c) T F $4x + (x + 15) = 20$

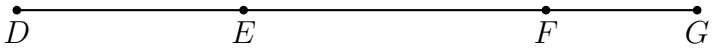
(d) T F $2(x + 15) = 20$

13. Given $P(-2.4)$ and $Q(1.8)$, as shown on the number line. Find the length of the line segment $\overline{PQ}$.



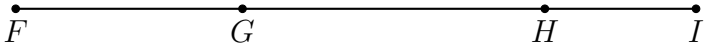
14. Given $\overline{DEFG}$, $DE = 3\frac{1}{4}$, $EF = 6\frac{1}{4}$, and $FG = 1\frac{3}{4}$. (diagram not to scale)

    Find DG, expressed as a fraction, not a decimal.

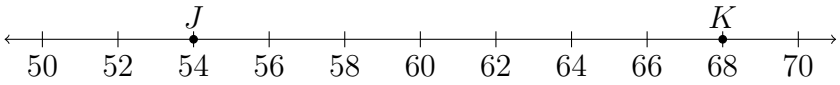


15. Given $\overline{FGHI}$, $FG = 8\frac{1}{6}$, $GH = 12\frac{1}{3}$, and $HI = 5\frac{1}{2}$. (diagram not to scale)

    Find FI.



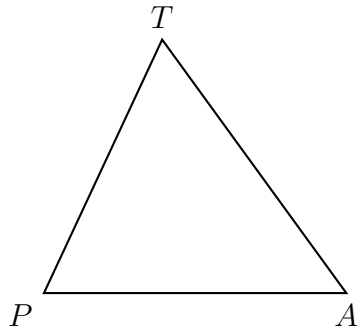
16. Given $\overleftrightarrow{JK}$ as shown on the number line.



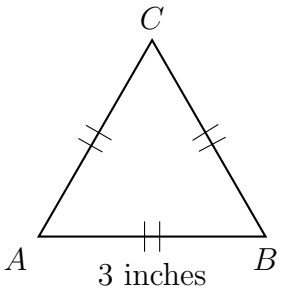
    What is the midpoint between the points J and K?

C. Perimeter and special shapes

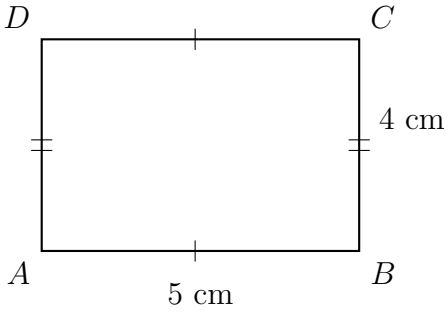
17. Given isosceles $\triangle PAT$ with $\overline{PA} \cong \overline{AT}$. On the diagram mark the congruent line segments with tick marks.



18. Given equilateral triangle ABC with $AB = 3$ inches. Find the perimeter of $\triangle ABC$.



19. Rectangle $ABCD$ is shown with length 5 centimeters and width 4 cm. Fill in the blanks and find the rectangle's perimeter.

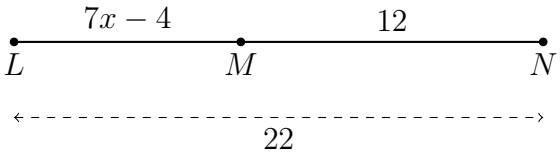


$P = 5 + 4 + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_$

20. The perimeter of a square is 48 centimeters. Find the length of the square's sides.

D. Solving algebraic equations for one variable

21. Given $\overline{LMN}$, $LM = 7x - 4$, $MN = 12$, $LN = 22$.

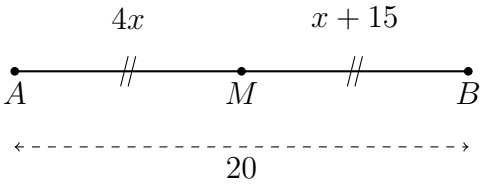


(a) Write down an equation to represent the situation.

(b) Solve for x.

(c) Check your answer.

22. As diagrammed below, point M is the midpoint of $\overline{AB}$, $AM = 4x$, $MB = x + 15$, $AB = 20$. Solve for x. (show the check for full credit)



23. Given $\overline{RST}$, S bisects $\overline{RT}$, $RS = 17x - 10$, $ST = 13x - 2$. Find RT.

Complete all the steps for full credit.