

Lesson 1.2 Worksheet

Name: Key

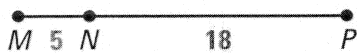
Write an explanation to answer the question.

1.) Explain the difference between MN and \overline{MN} .

MN is referring to the length of segment MN, while \overline{MN} is used when referencing the physical segment MN.

In exercises 2-4, find the indicated length

2.) Find MP.

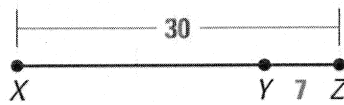


$$MN + NP = MP$$

$$5 + 18 = MP$$

$$MP = 23$$

3.) Find XY.

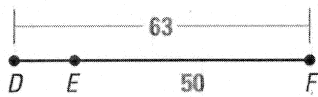


$$XY + YZ = XZ$$

$$XY + 7 = 30$$

$$XY = 23$$

4.) Find DE.

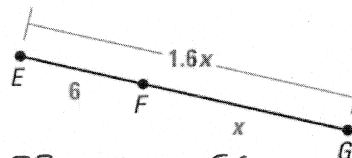


$$DE + EF = DF$$

$$DE + 50 = 63$$

$$DE = 13$$

5.) Find EG.



$$EF + FG = EG$$

$$6 + x = 1.6x$$

$$6 = .6x$$

$$x = 10$$

$$EG = 16$$

In the diagram to the right, points V, W, X, Y, and Z are collinear. $VZ=52$, $XZ=20$, and $WX=XY=YZ$. Find the indicated lengths.

5.) WX

$$WX = 10$$

6.) VW

$$VW = 22$$

7.) WY

$$WY = 20$$

8.) VX

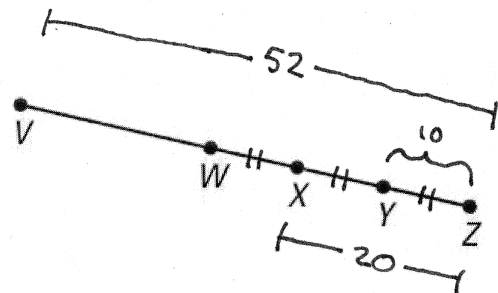
$$VX = 32$$

9.) WZ

$$WZ = 30$$

10.) VY

$$VY = 42$$

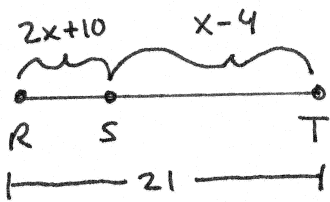


For exercises 11-13 point S is between R and T on \overline{RT} . Use the given information to draw a labeled picture, set up and solve an equation in terms of x , and then find RS and ST .

11.)

$$\begin{aligned} RS &= 2x + 10 \\ ST &= x - 4 \\ RT &= 21 \end{aligned}$$

Picture:



Equation:

$$\begin{aligned} RS + ST &= RT \\ 2x + 10 + x - 4 &= 21 \\ 3x + 6 &= 21 \\ 3x &= 15 \\ x &= 5 \end{aligned}$$

$$RS = \underline{20}$$

$$ST = \underline{1}$$

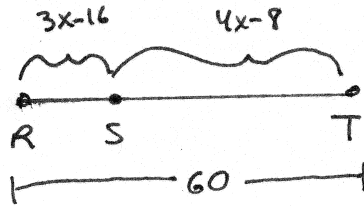
$$RS = 2(5) + 10$$

$$ST = 5 - 4$$

12.)

$$\begin{aligned} RS &= 3x - 16 \\ ST &= 4x - 8 \\ RT &= 60 \end{aligned}$$

Picture:



Equation:

$$\begin{aligned} RS + ST &= RT \\ 3x - 16 + 4x - 8 &= 60 \\ 7x - 24 &= 60 \\ 7x &= 84 \\ x &= 12 \end{aligned}$$

$$RS = \underline{20}$$

$$ST = \underline{40}$$

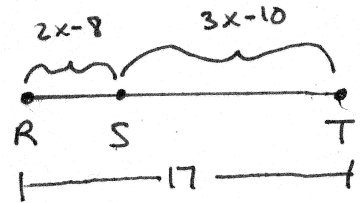
$$RS = 3(12) - 16$$

$$ST = 4(12) - 8$$

13.)

$$\begin{aligned} RS &= 2x - 8 \\ ST &= 3x - 10 \\ RT &= 17 \end{aligned}$$

Picture:



Equation:

$$\begin{aligned} RS + ST &= RT \\ 2x - 8 + 3x - 10 &= 17 \\ 5x - 18 &= 17 \\ 5x &= 35 \\ x &= 7 \end{aligned}$$

$$RS = \underline{6}$$

$$ST = \underline{11}$$

$$RS = 2(7) - 8$$

$$ST = 3(7) - 10$$