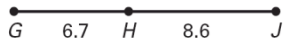
Geometry H **Name: _____**

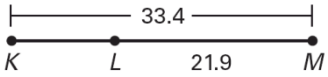
LESSON 1.2 HOMEWORK **Date: _____Period: _____**

Use the Segment Addition Postulate to find the indicated length.

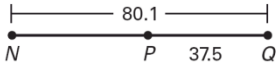
1. Find *GJ*.



2. Find *KL*.

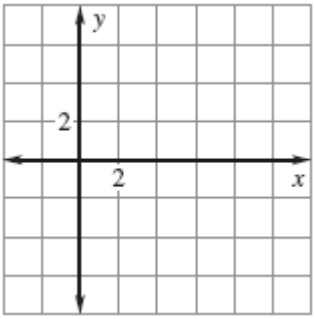


3. Find *NP*.

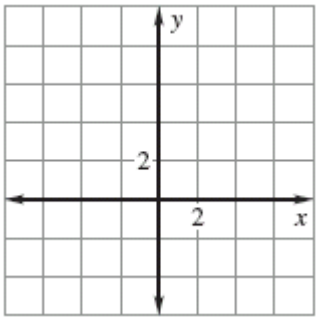


Plot the given points in a coordinate plane. Then determine whether the line segments named are congruent.

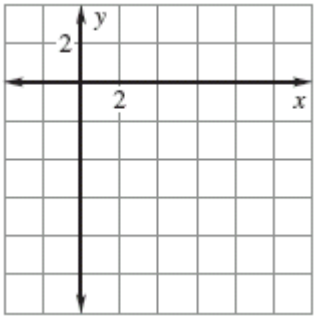
4. *A*(0, 4), *B*(8, 4), *C*(6, 6), *D*(6, –2);
$\overline{AB}$ and $\overline{CD}$



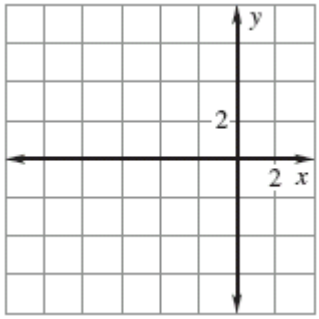
5. *E*(–3, –2), *F*(-3, 2), *G*(4, 5), *H*(4, 9);
$\overline{EF}$ and $\overline{GH}$



6. $J(-1, -5)$, $K(6, 2)$, $L(9, -5)$, $M(6, -10)$; $\overline{JL}$ and $\overline{KM}$



7. $P(-10, 4)$, $Q(-5, 1)$, $R(-10, -3)$, $S(-5, -6)$; $\overline{PR}$ and $\overline{QS}$



Use the number line to find the indicated distance.

8. VW **9.** XY **10.** XZ **11.** VX

12. VY **13.** WZ **14.** WY **15.** VZ

In the diagram, points *A*, *B*, *C*, *D*, and *G* are collinear, points *E*, *F*, *G*, *H*, and *J* are collinear, $CD = 10.4$, $BD = 19.1$, $GJ = 21.3$, $BG = 30.6$, $AB = BC = EF = GH$, and $DG = FG$. Find the indicated length.

16. AB

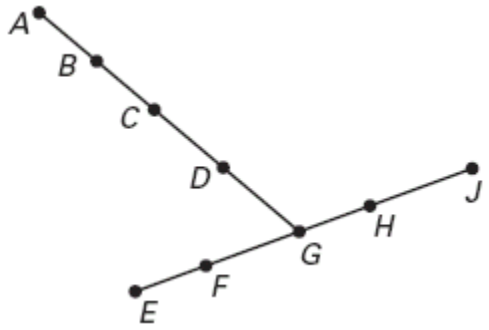
17. CG

18. AG

19. FG

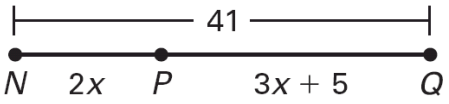
20. EH

21. EJ

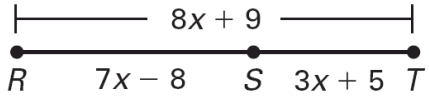


Find the indicated length.

22. Find *PQ*.



23. Find *ST*.



Point *B* is between A and *C* on $\overline{AC}$. Use the given information to write an equation in terms of *x*. Solve the equation. Then find *AB* and *BC*.

24. $AB = 7x + 2$
$BC = 2x - 1$
$AC = 64$

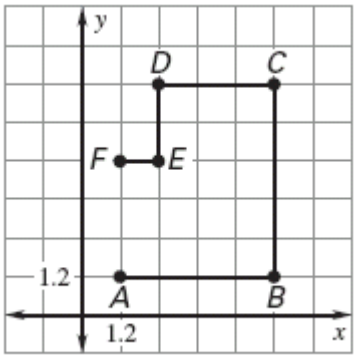
25. $AB = 4x + 3$
$BC = 8x - 11$
$AC = 10.5x + 4$

26. Marathon A marathon is being planned in your city. The course for the race is through different parts of the city as shown in the graph. The race starts at point *A* and the finish line is at point *F*. The distance is in miles.

a. How many miles is the entire race?

b. How many miles is it from the start of the race to point C?

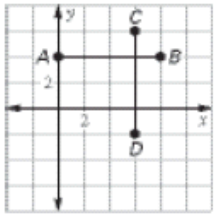
c. How many miles is it from point D to the finish line?



d. How many miles would be eliminated from the race if the runners were told to turn left at point (6, 4.8) and then head straight to the finish line?

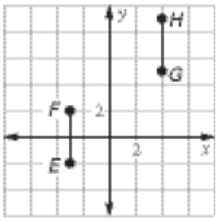
Answer Key - Lesson 1.2

1. 15.3
2. 11.5
3. 42.6
4.



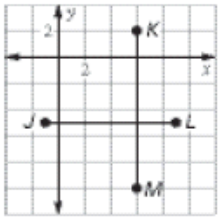
congruent

5.



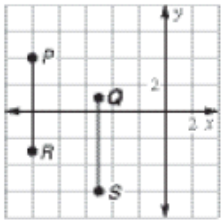
congruent

6.



not congruent

7.



congruent

8. 6
9. 8
10. 17
11. 13
12. 21
13. 24
14. 15
15. 30
16. 8.7
17. 21.9
18. 39.3
19. 11.5
20. 28.9
21. 41.5
22. 26.6
23. 23
24. $7x + 2 + 2x - 1 = 64$; $AB = 51$; $BC = 13$
25. $4x + 3 + 8x - 11 = 10.5x + 4$; $AB = 35$; $BC = 53$
26. a. 18 mi **b** 10.8 mi **c.** 3.6 mi **d.** 4.8 mi