1. Complete the following statements.

M

H

A

T

R

a) MR = 24, HR = \_\_\_\_\_\_ b) TR = 16, AT = \_\_\_\_\_\_

c) MH = 58, MR = \_\_\_\_\_\_

1. R is the midpoint of \_\_\_\_\_\_ and \_\_\_\_\_\_.

J

B

A

D

Z

3. JB is the \_\_\_\_\_\_\_\_\_\_ bisector of AD,

AD = 24, AZ = 2x + 4, and m∠JZA= 3y,

Find the value of x and y.

Use the number line in figure 2 for problems 4-8.

W

A

S

Q

B

-8

0

2

4

8

4. What is the midpoint of AB?

5. What is the coordinate of the midpoint of QB?

Figure 2

6. What is the coordinate of the midpoint of WA?

7. The coordinate of the midpoint of AR is -5.

What is the coordinate of point R?

8. The coordinate of the midpoint of ST is 7.

What is the coordinate of point T?

Use Figure 3 for problems 9-10.

T

B

A

M

Q

9. If TM = 3x + 5, MQ = x + 17, find the value of x.

10. If AM = 5y – 1, AB = 38, find the value of y.

Figure 3

11. B is between A and C. AC=15.8, and AB = 9.9. Find BC.

12. K is the midpoint of JL, JL = 4x-2, and JK = 7. Find x, KL, and JL.

13. E bisects DF, DE = 2y, and EF = 8y-3. Find DE, EF, and DF.

Tell whether each statement is sometimes, always, or never true. **Support each answer with a sketch.**

14. Two segments that have the same length must be congruent.

15. If M is between A and B, then M bisects AB.

16. If Y is between X and Z, then X, Y, and Z are collinear.