4.7 Special Segments

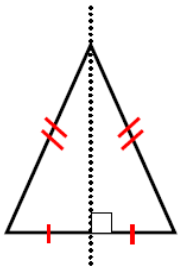
Name_____

Worksheet #1

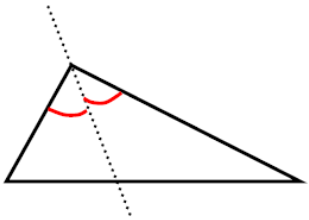
Given the following pictures and markings, identify if the dotted line is (a) an angle bisector, (b) a perpendicular bisector, (c) an altitude, or (d) a median. List all that apply.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

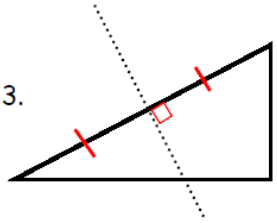
1.



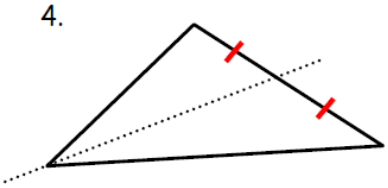
2.



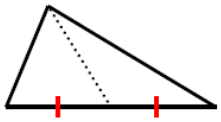
3.



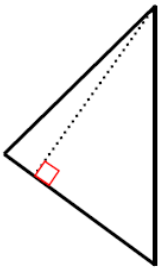
4.



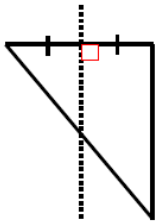
5.



6.

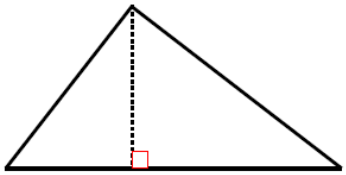


7.

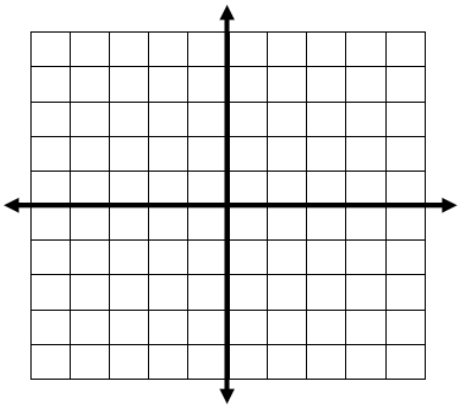


8.

9.



10. Graph △CAR using the points C(-4, 0), A(2, -4), and R (3, 4). Then, answer the questions.



a) Find the midpoint of $\overline{CA}$. _____

b) Label this point S on the graph.

c) Connect point S to R.

d) Find the slope of $\overline{CA}$ _____

e) Find the slope of $\overline{RS}$_____

f) $\overline{CA}$ and $\overline{RS}$ are _____ lines.

g) Therefore, $\overline{RS}$ is a/an _____, _____, and _____.

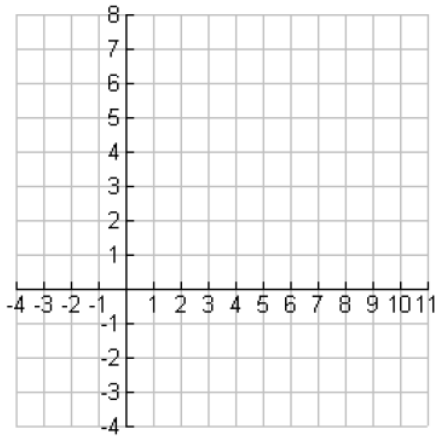
Answers

1. b, c, d
2. a
3. b
4. d
5. d
6. c
7. b
8. a
9. c

10. a) (-1, -2) d) $-\frac{2}{3}$ e) $\frac{3}{2}$ f) perpendicular

g) altitude, median, and perpendicular bisector

11. The vertices of a triangle have coordinates A(0, 7), B(10, 4), and C(0, -4). What is the best name for the line segment that contains the points B(10, 4) and D(0, 4)?



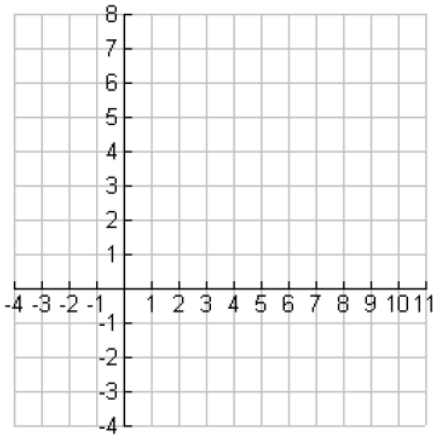
A. Median

B. Perpendicular Bisector

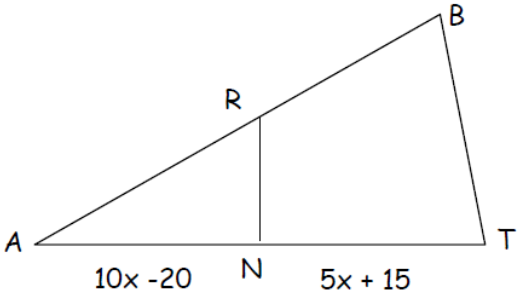
C. Altitude

D. Angle Bisector

12. Recall perpendicular lines have negative reciprocal slopes. Graph the following points: C(3, 2), A(-2, 5), and T(6, 4) and find the altitude from T to the line CA. The altitude is a line from a vertex which is perpendicular to the side across from the vertex.

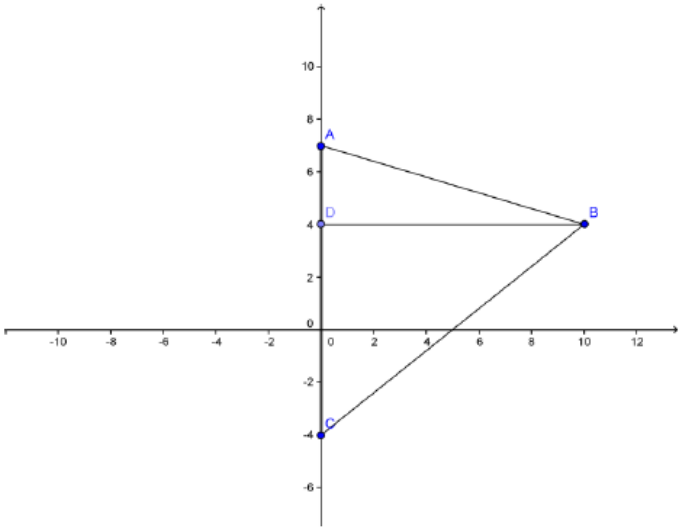


13. RN is the perpendicular bisector of AT. How would you find the value of x? What are the lengths of AN and NT?

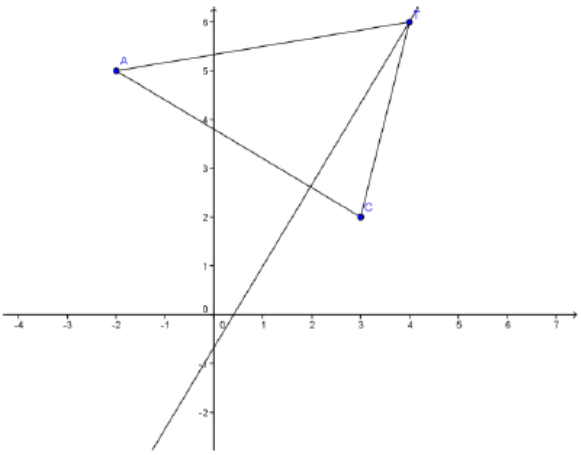


Answers

11. C



12. The slope of CA is -1/2 so the slope of T to the point on line CA is 2.



13. x = 7
AN=NT=50