

## Distance and Midpoint Word Problems

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1. On a map, Julie's house is located at  $(-2, 5)$  and Jimmy's house is at  $(6, -2)$ . How long is the direct path from Julie's house to Jimmy's house?
2. The Riley and Brown families decided to go to a concert together. The Riley's live 6 miles west and 3 miles north of the concert. The Browns live 2 miles east and 4 miles south. How far apart do they live?
3. A command center learns of an enemy patrol is located 7 miles east and 11 miles north of their position. If the commands attack helicopter is located 1 mile east and 3 miles north of the center. What is the shortest distance the helicopter can travel to get to the enemy patrol?
4. On a map's coordinate grid, Walt City is located at  $(-1, -3)$  and Koshville is located at  $(4, 9)$ . How long is the train's route if it travels along a straight line from Walt City to Koshville? ( One map unit equals one mile.)
5. Coach Alvarado drew his football team's next play on the coordinate grid. He placed Kaleem at  $(1, 3)$ . He will be passing the ball to Jeremy at  $(-6, 3)$ . What is the distance, in yards, of the pass from Kaleem to Jeremy?

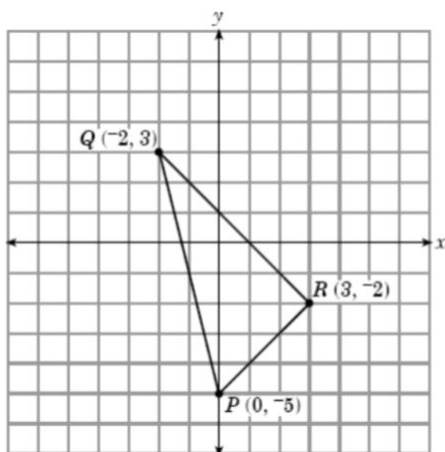
6. Find the distance between  $(-3, 6)$  and  $(9, -5)$ .
  
  
  
  
  
  
  
  
  
  
7. Find the length of the segment with endpoints  $(-5, -3)$  and  $(-3, -1)$ .
  
  
  
  
  
  
  
  
  
  
8. Write an example of a point that would fall on the horizontal line segment with one endpoint  $(5, 13)$
  
  
  
  
  
  
  
  
  
  
9. Fred is at *Bojangles* which is 2 miles west and 4 miles north of the school. Barney is at *Pelicans* which is 4 miles east and six miles south of the school. How far apart are Fred and Barney?
  
  
  
  
  
  
  
  
  
  
10. The midpoint of  $\overline{XY}$  is point  $M(-12, 5)$ . If the coordinates of X are  $(4, -3)$ , what are the coordinates of Y?
  
  
  
  
  
  
  
  
  
  
11. The midpoint of  $\overline{RS}$  is point  $M(2, 5)$ . If the coordinates of R are  $(-3, -6)$ , what are the coordinates of S?
  
  
  
  
  
  
  
  
  
  
12. A line has one endpoint of  $(-3, 7)$  and a midpoint of  $(5, 2)$ . What is the other endpoint?

13. Two ships started at the same point and steamed in opposite directions at the same speed. After one hour the *Hanley Maru* was at point  $(17, 33)$ , and the *USS Foxx* was at  $(-19, -35)$ . At what point did they start?

14. Mr. Franklin needs to draw a perfect circle. The endpoints of one of the diameters needs to fall on  $(7, 1)$  and  $(-1, -1)$ . Where should he locate the center of the circle?

15. On a map, the fire station is located at  $(-2, 6)$  and the church is at  $(6, -6)$ . What are the coordinates for the post office if it is located exactly a **quarter** of the way from the fire station to the church?

16. What is the perimeter of  $\triangle PQR$ ?



17. A triangle has vertices at  $(1, 3)$ ,  $(2, -3)$ , and  $(-1, -1)$ . What is the **approximate** perimeter of the triangle?