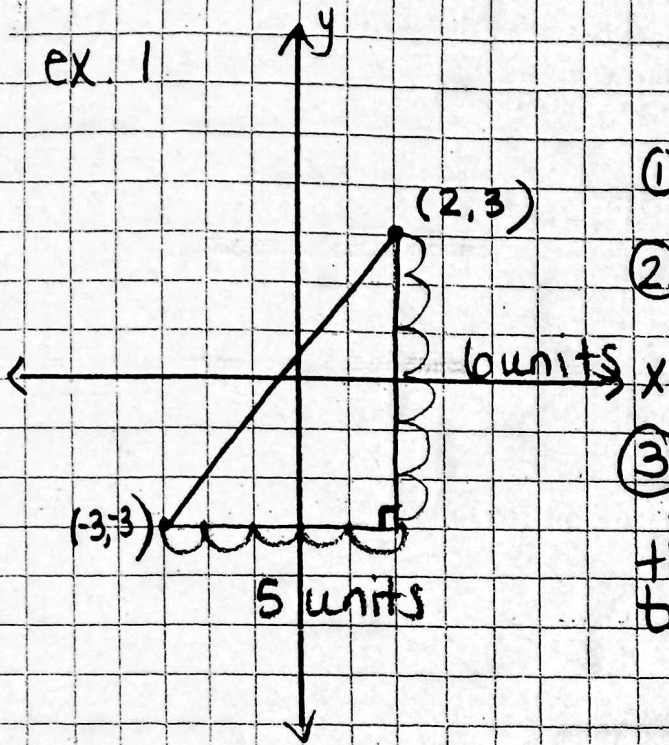


Finding the distance between two points

ex. 1



- ① create a right triangle
- ② count the units to make the legs.
- ③ Use Pythagorean Theorem to find the missing side of the newly constructed right triangle.

$$a^2 + b^2 = c^2$$

$$6^2 + 5^2 = c^2$$

$$36 + 25 = c^2$$

$$61 = c^2$$

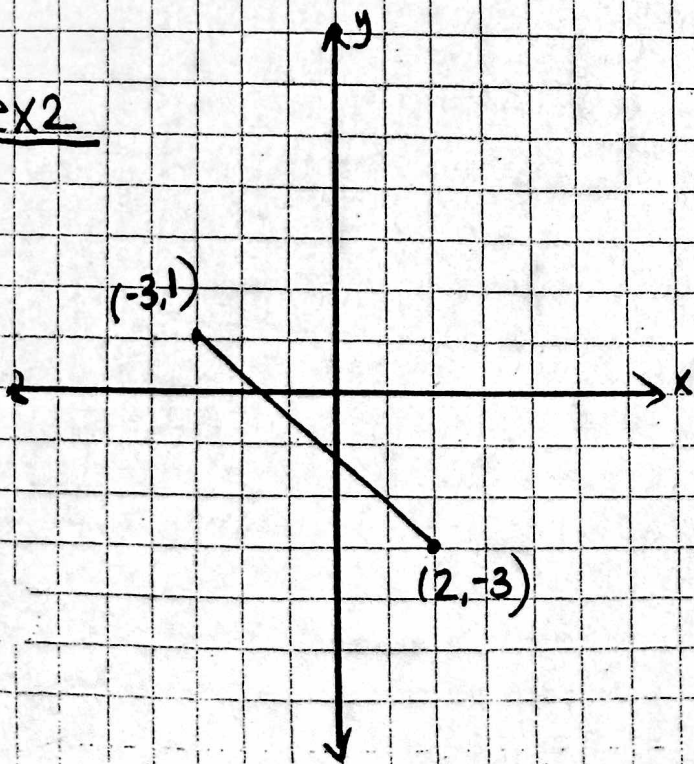
$$\sqrt{61} = \sqrt{c^2}$$

$$7.81 \approx c$$

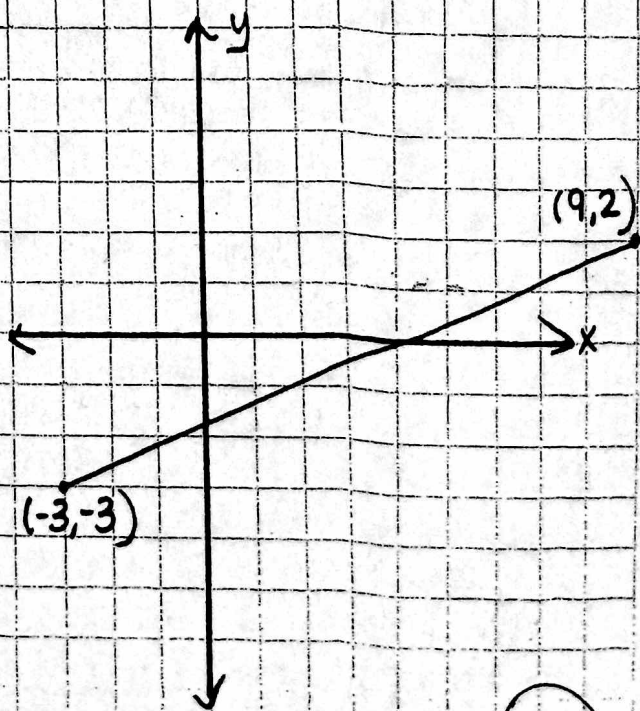
- you may use a calculator round to the nearest hundredth.

Find the distance between the two points.

ex2

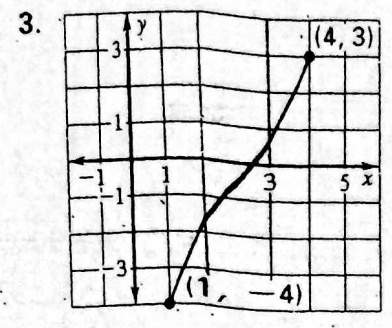
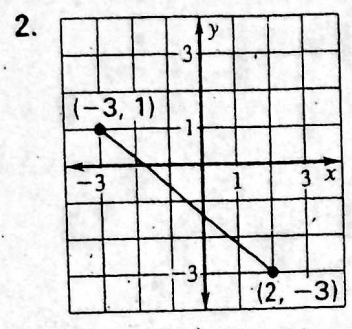
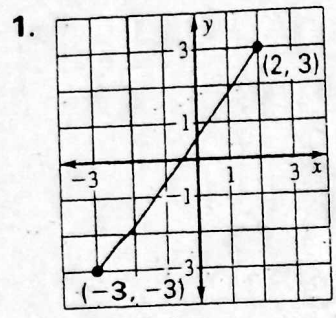


ex3



Lesson 12.6

Use the coordinate plane to estimate the distance between the two points. Then use the distance formula to find the distance between the points. Round the result to the nearest hundredth if necessary.



Find the distance between the two points. Round the result to the nearest hundredth if necessary.

- 4. $(1, 1), (4, 4)$
- 5. $(2, 5), (5, 1)$
- 6. $(0, 3), (2, 6)$
- 7. $(1, 6), (5, 1)$
- 8. $(-2, 8), (4, 0)$
- 9. $(3, -5), (-2, 0)$
- 10. $(-3, -5), (6, 5)$
- 11. $(8, 6), (-4, -3)$
- 12. $(-5, 2), (-2, 5)$

Use the distance formula to decide whether the three points are vertices of a right triangle.

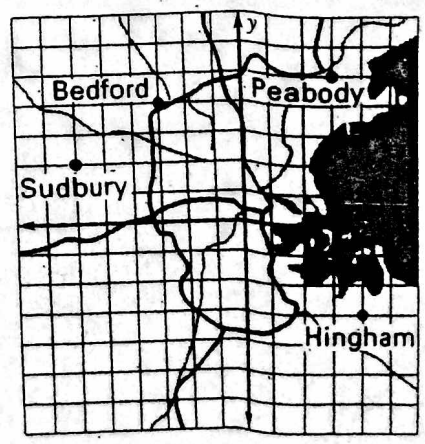
- 13. $(1, 1), (4, 4), (4, 1)$
- 14. $(0, 6), (4, 6), (4, 2)$
- 15. $(-2, 6), (5, 3), (1, -2)$
- 16. $(3, -4), (-2, -1), (4, 6)$

Find the midpoint between the two points.

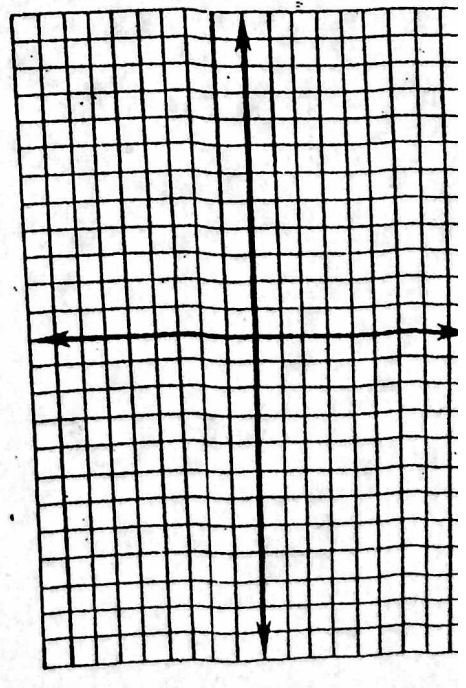
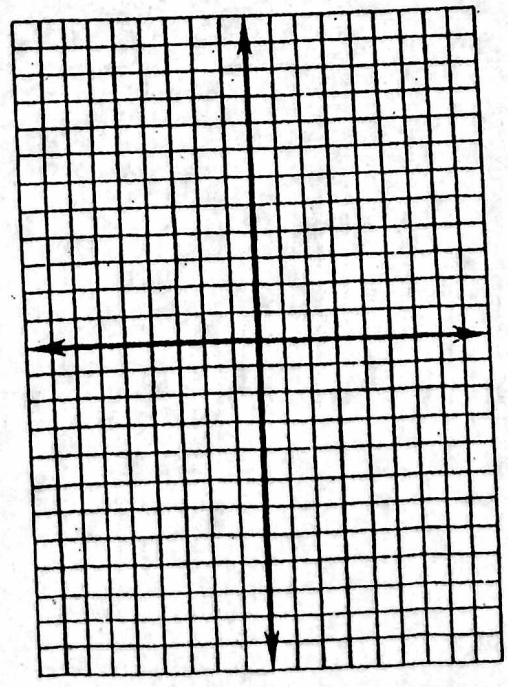
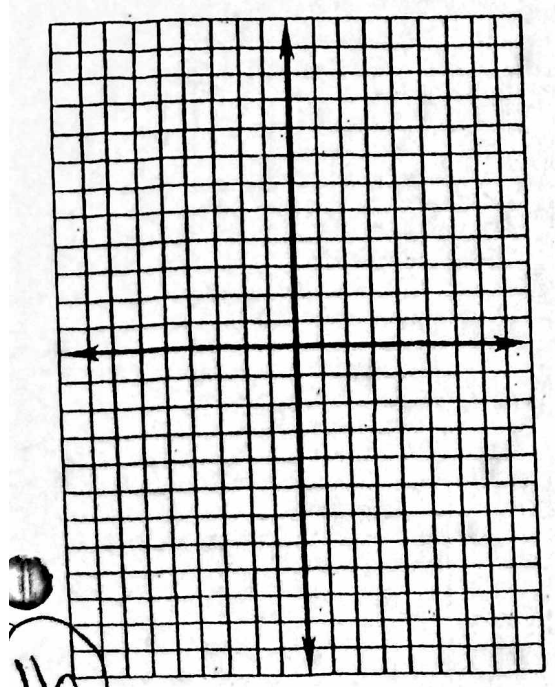
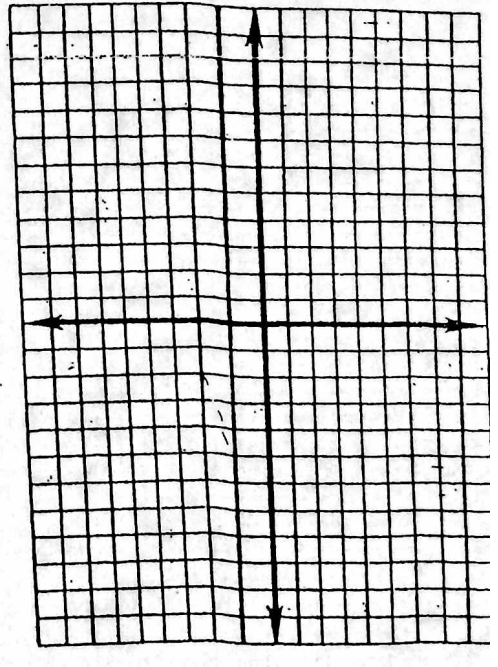
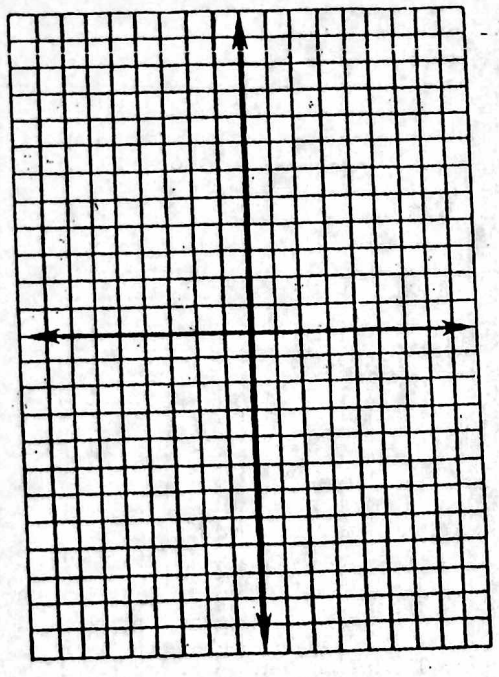
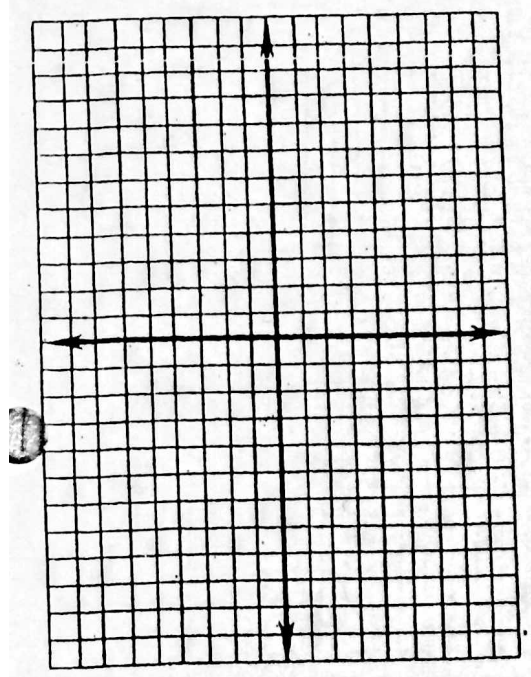
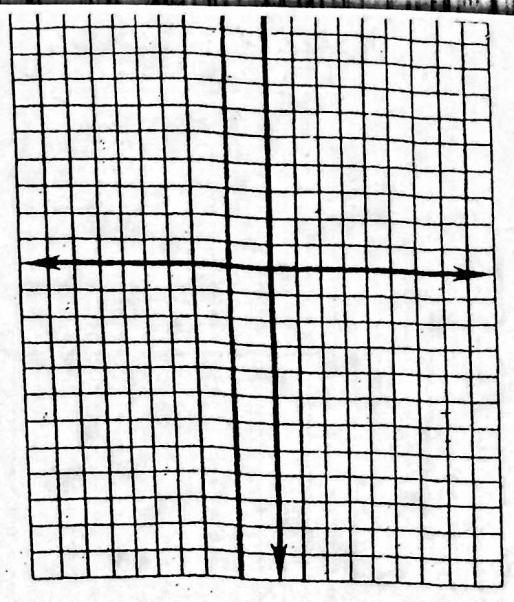
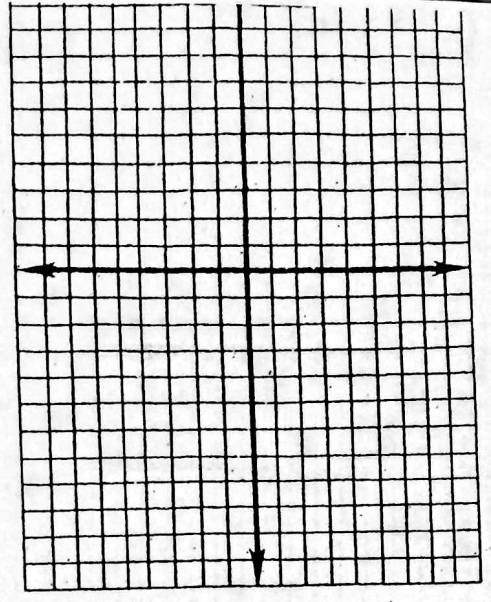
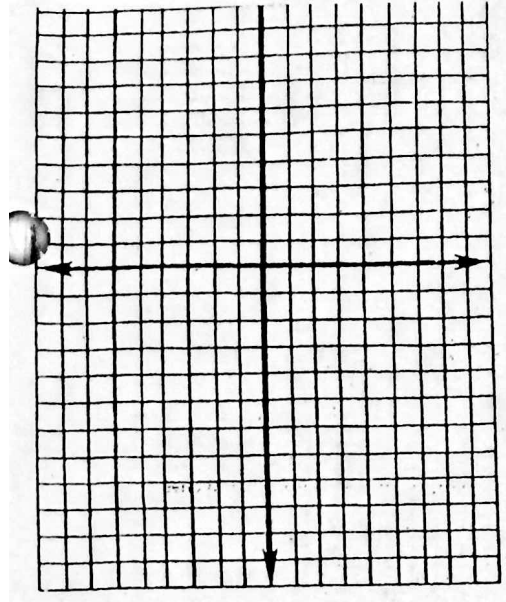
- 17. $(1, 1), (5, 5)$
- 18. $(2, 3), (4, 5)$
- 19. $(3, 0), (5, -4)$
- 20. $(-5, -2), (3, 6)$
- 21. $(0, -5), (3, -2)$
- 22. $(4, -1), (-1, 4)$
- 23. $(-3, -5), (-3, 2)$
- 24. $(2, -6), (-2, 3)$
- 25. $(-2, -4), (4, 6)$

Boston Suburbs Use the map shown. Each side of each square is 4 kilometers. The points represent city locations.

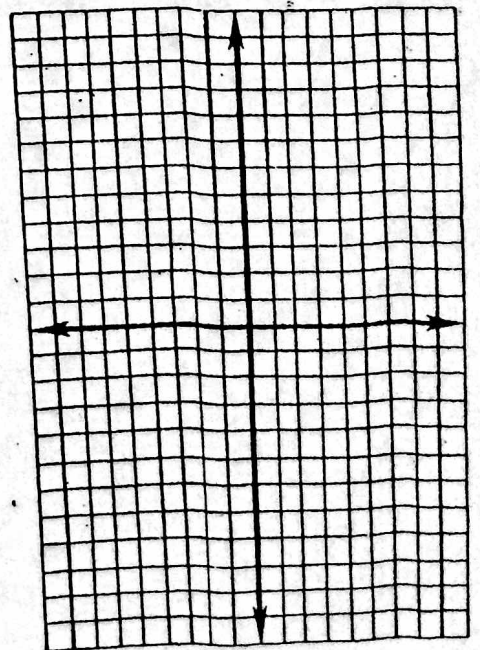
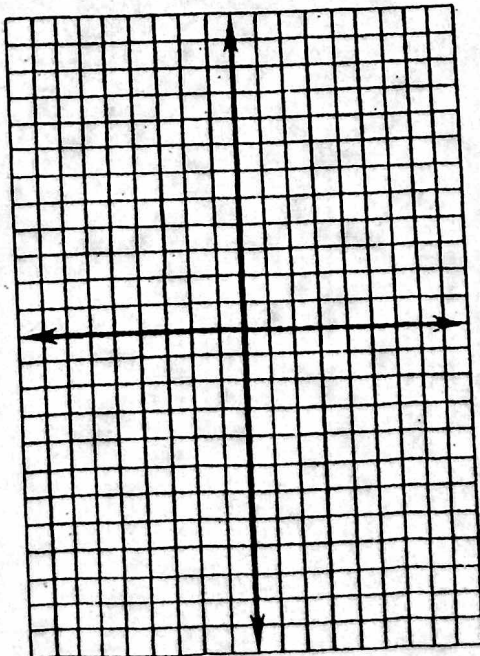
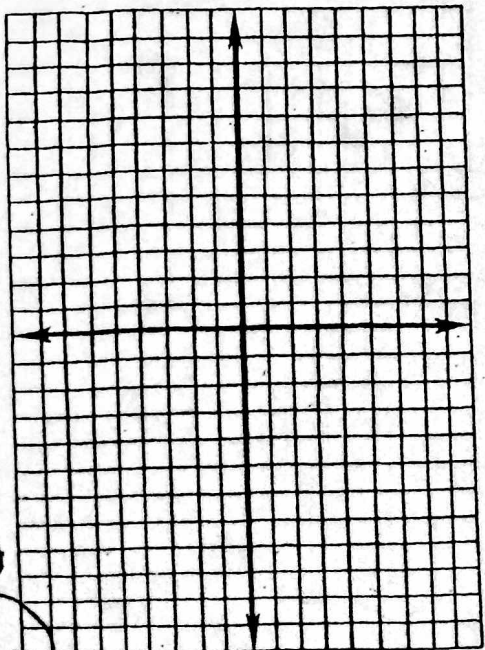
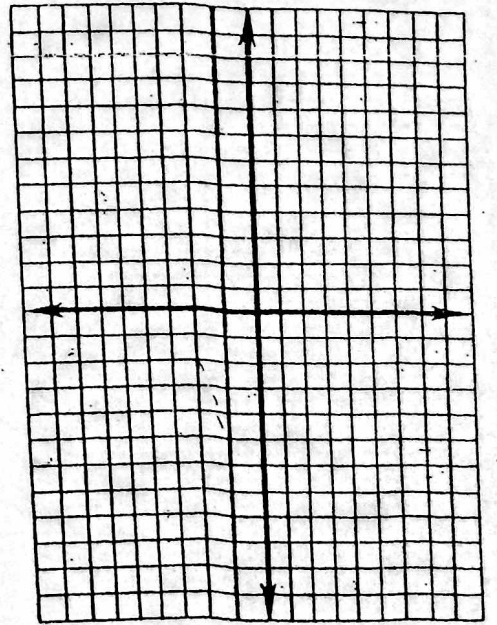
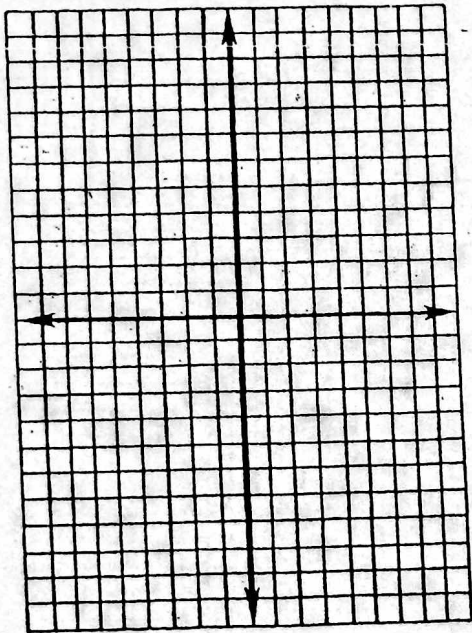
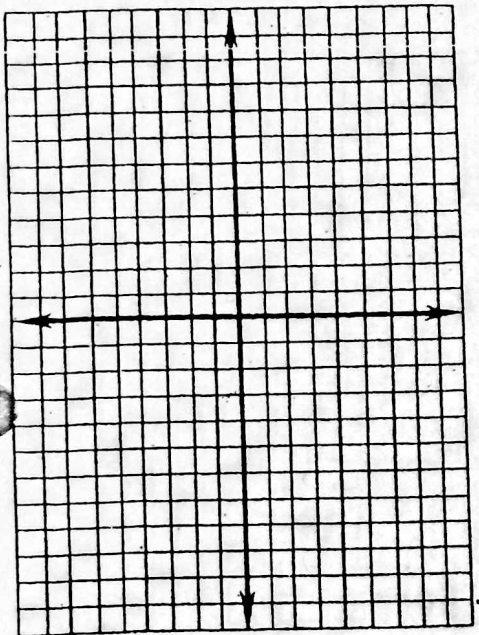
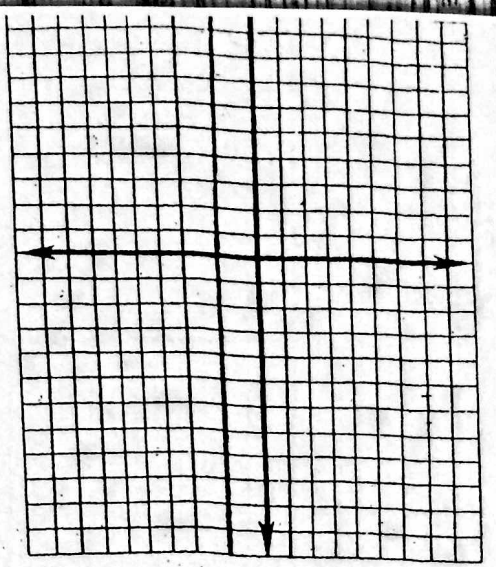
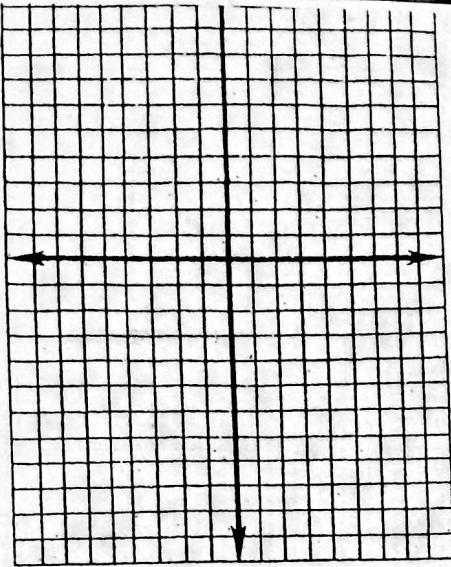
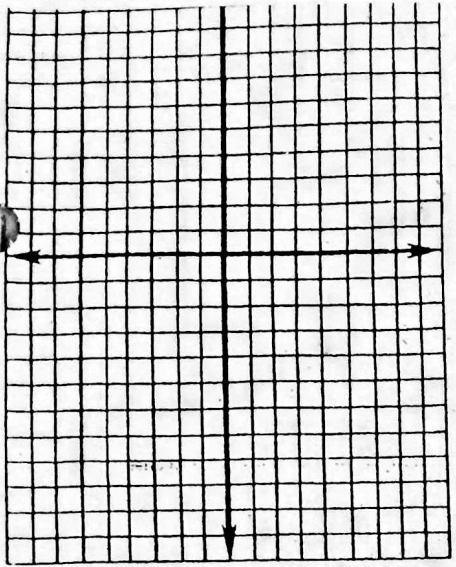
- 26. Use the distance formula to estimate the distance between Peabody and Bedford.
- 27. Use the distance formula to estimate the distance between Bedford and Hingham.
- 28. Use the distance formula to estimate the distance between Sudbury and Hingham.



14



16



16