

DIRECTIONS: Find (a) the distance between each pair of points, and (b) the midpoint of the line segment connecting the points. Express all radicals in simplest form.

1. $(13, 6), (0, 6)$

2. $(0, 8), (-6, 0)$

3. $(0, 6), (-5, -1)$

4. $(9, 1), (2, -1)$

5. $(3, 2), (5, 6)$

6. $(-4, -3), (2, 1)$

7. $(2, 2), (\frac{1}{3}, -2)$

8. $(\frac{1}{2}, -1), (-1, 1)$

9. $(0, 0), (11, 11)$

10. $(0, 0), (5, 5)$

11. $(\sqrt{2}, 1), (-\sqrt{2}, 0)$

12. $(5, \sqrt{5}), (3, -\sqrt{5})$

13. $(1 + \sqrt{5}, 2 + \sqrt{3}), (1 - \sqrt{5}, -2 + \sqrt{3})$

14. $(\sqrt{6} + 1, \sqrt{3} - \sqrt{2}), (\sqrt{6} - 1, \sqrt{3} + \sqrt{2})$

15. $(a, b), (0, b)$

16. $(-a, b), (2a, 4b)$

17. $(a + b, a - b), (b - a, b + a)$

18. $(a, \sqrt{ab}), (b, -\sqrt{ab})$

DIRECTIONS: M is the midpoint of \overline{PQ} . Find the coordinates of Q .

19. $P(0, 0), M(3, 5)$

20. $P(-4, 3), M(0, 0)$

21. $P(-4, 0), M(3, 3)$

22. $P(6, -2), M(0, 5)$

23. $P(h, k), M(0, 0)$

24. $P(0, 0), M(h, k)$