1. **Plot the points A(5,-2), B(-5,-2), C(5,2), D(-5,2) E(3,0), and F(0,3) on a coordinate plane.**



1. **Plot the points A(0,0), B(1,1), C(3,3), D(-1,-1), and E(-2,-2). Describe the set of all points of the form (a,a), where a is a real number.**



1. **Describe the set of all points P(x,y) in a coordinate plane that satisfy the given conditions.**
2. x = -2 (b) y = 3 (c) x ≥ 0

(d) xy > 0 (e) y < 0 (f) x = 0

1. **Find the distance d(A,B) between A and B. (b) Find the midpoint of the segment AB.**
2. A(4, -3), B (6, 2) 5. A(-5, 0), B(-2, -2) 6. A(7, -3), B(3, -3)

 7. **Show that the triangle with vertices A(8, 5), B(1, -2), C(-3, 2) is a right triangle, and find its area.**

 8. **Show that A(-4, 2), B(1, 4), C(3, -1), and D(-2, -3) are vertices of a square.**

 9. **Given A(-3, 8), find the coordinates of the point B such that C(5, -10) is the midpoint of segment AB.**

 10. **Prove that C is on the perpendicular bisector of segment AB. A(-4, -3), B(6, 1), C(5, -11)**

 11. **Find a formula that states that P(x, y) is a distance 5 from the origin. Describe the set of all points.**

 12. **Find all points on the y-axis that are a distance 6 from P(5, 3).**

 13. **Find the point with coordinates of the form (2a, a) that is in the third quadrant and is a distance 5 from P(1, 3).**

 14. **The table lists the number of daily newspapers published in the U.S. for various years.**

|  |  |
| --- | --- |
| Year | Newspapers |
| 1900 | 2226 |
| 1920 | 2042 |
| 1940 | 1878 |
| 1960 | 1763 |
| 1980 | 1745 |
| 1993 | 1556 |

1. Plot the data in the viewing rectangle [1895, 2000, 10] by

 [0, 3000, 1000]

1. Use the midpoint formula to estimate the number of

 newspapers in 1930. Compare your answer with the true

 value, which is 1942.