Distance and Midpoint

For the points A and B find the distance between them and the midpoint of the line segment connecting them.

1. $A = (4, 5), B = (1, 1)$

2. $A = (0, 5), B = (2, 3)$

3. $A = (-4, 1), B = (2, 3)$

4. $A = (0, 0), B = (3, -4)$

5. $A = (-3, 11), B = (1, 5)$

6. $A = (-5, 5), B = (0, 0)$

7. $A = (-3, -12), B = (1, -14)$

8. $A = (1, -11), B = (5, -17)$

9. $A = (4, -1), B = (3, 6)$

10. $A = (6, -2), B = (-6, 3)$

Answers:

1. $d = 5, M = \left(\frac{5}{2}, 3\right)$

2. $d = 2\sqrt{2}, M = (1, 4)$

3. $d = 2\sqrt{10}, M = (-1, 2)$

4. $d = 5, M = \left(\frac{3}{2}, -2\right)$

5. $d = 2\sqrt{13}, M = (-1, 8)$

6. $d = 5\sqrt{2}, M = \left(-\frac{5}{2}, \frac{5}{2}\right)$

7. $d = 2\sqrt{5}, M = (-1, -13)$

8. $d = 2\sqrt{13}, M = (3, -14)$

9. $d = 5\sqrt{2}, M = \left(\frac{7}{2}, \frac{5}{2}\right)$

10. $d = 13, M = \left(0, \frac{1}{2}\right)$