



Find the length and midpoint of the segment with the given endpoints. (Example 2)

11.  $(6, 1, 10), (-9, -10, -4)$

Length of the line segment

$$AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}$$

$$AB = \sqrt{(\dots - \dots)^2 + (\dots - \dots)^2 + (\dots - \dots)^2}$$

$$AB = \sqrt{\dots}$$

$$AB = \dots$$

Midpoint coordinates:

$$M \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}, \frac{z_1 + z_2}{2} \right)$$

$$M \left( \frac{\dots}{2}, \frac{\dots}{2}, \frac{\dots}{2} \right)$$

$$M (\dots, \dots, \dots)$$

