

Reteaching 11-3 Distance and Midpoint Formulas

Find the perimeter of the figure. Round to the nearest tenth where necessary.

Use the distance formula to find the lengths of the sides.

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

First, find the coordinates of the vertices.

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

$$AB = \sqrt{[3 - (-3)]^2 + [-1 - 2]^2}$$

$$\begin{aligned} &= \sqrt{6^2 + (-3)^2} \\ &= \sqrt{36 + 9} \\ &= \sqrt{45} \end{aligned}$$

Replace (x_2, y_2) with $(3, -1)$ and (x_1, y_1) with $(-3, 2)$.

Simplify.

Find the squares.

Add.

Similarly,

$$BC = \sqrt{[3 - (-4)]^2 + [-1 - (-4)]^2}$$

$$\begin{aligned} &= \sqrt{7^2 + 3^2} \\ &= \sqrt{49 + 9} \\ &= \sqrt{58} \end{aligned}$$

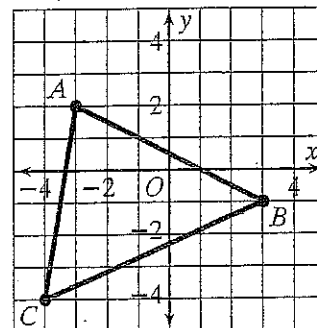
$$AC = \sqrt{[(-3) - (-4)]^2 + [2 - (-4)]^2}$$

$$\begin{aligned} &= \sqrt{1^2 + 6^2} \\ &= \sqrt{1 + 36} \\ &= \sqrt{37} \end{aligned}$$

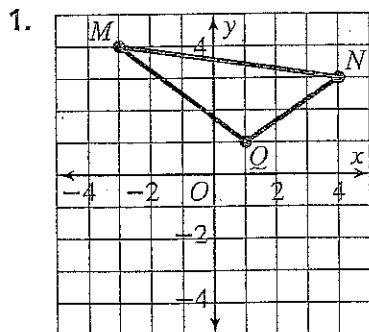
The perimeter is the sum of the lengths of the sides.

$$\text{perimeter} = \sqrt{45} + \sqrt{58} + \sqrt{37} \approx 20.4$$

The perimeter is about 20.4 units.



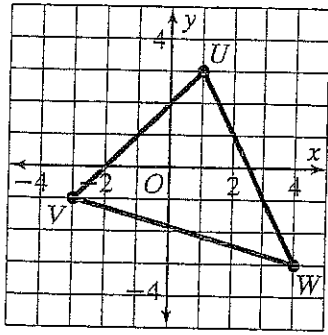
Find the perimeter of each figure. Round to the nearest tenth when necessary.



$$MN = \underline{\hspace{2cm}} \quad NQ = \underline{\hspace{2cm}}$$

$$MQ = \underline{\hspace{2cm}} \quad P \approx \underline{\hspace{2cm}}$$

2.



$UV =$ _____ $VW =$ _____

$UW =$ _____ $P \approx$ _____