

Show all work

Find the midpoint of the non-parallel sides

Label the midpoints G  $(-5, -3)$  & H  $(1, 5)$

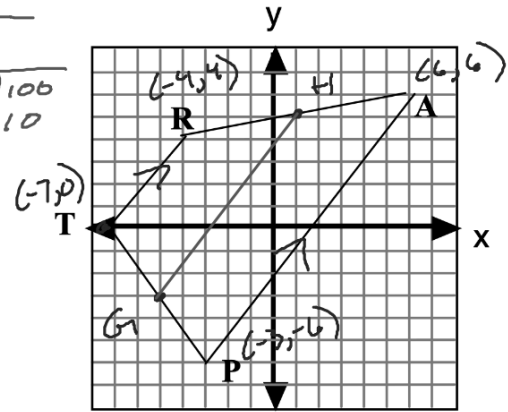
Draw the midsegment

Use the distance formula to prove the midsegment theorem

$$TR = \underline{5} \quad GH = \underline{10} \quad PA = \underline{15}$$

$$\sqrt{(4-5)^2 + (5+3)^2}$$

$$\sqrt{6^2 + 8^2}$$
$$\sqrt{36 + 64} = \sqrt{100}$$
$$= 10$$



Midpt TP

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

$$\left( \frac{-7 + (-3)}{2}, \frac{0 + (-6)}{2} \right)$$

Midpt RA

$$\left( \frac{-4 + 4}{2}, \frac{4 + 4}{2} \right)$$

$$PA (6, 6) \quad (-3, -6)$$

$$\sqrt{(6+6)^2 + (6+3)^2}$$

$$\sqrt{12^2 + 9^2} = \sqrt{144 + 81}$$
$$= \sqrt{225}$$
$$= 15$$

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

$$\sqrt{(-4 - (-7))^2 + (4 - 0)^2}$$

$$\sqrt{(3)^2 + (4)^2} = \sqrt{9 + 16}$$
$$= \sqrt{25} = 5$$