Geometry   Name___Key___   ID: 1

Coordinate Assignment   Date_____ Hour____
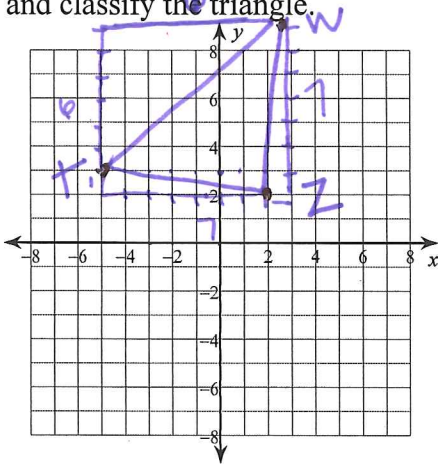
1) Find the measures of the sides of $\triangle TWZ$
   with vertices at T(-5,3), W(3,9) and Z(2,2)
   and classify the triangle.

$1^2 + 7^2 = TZ^2$

$1 + 49 = TZ^2$

$\sqrt{50} = TZ$

$\boxed{5\sqrt{2} = TZ}$

$1^2 + 7^2 = WZ^2$

$1 + 49 = WZ^2$

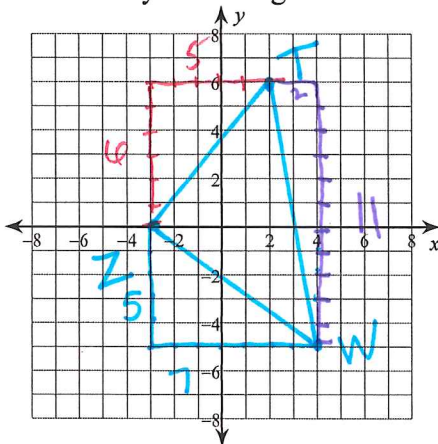$\sqrt{50} = WZ$

$\boxed{5\sqrt{2} = WZ}$

$7^2 + 6^2 = TW^2$

$64 + 36 = TW^2$

$\boxed{\sqrt{} = TW}$

$\sqrt{100} = 10$

$\triangle TWZ$ is isosceles because it has 2 ≅ sides $TZ \cong WZ$

2) Find the measures of the sides of $\triangle TWZ$
   with vertices at T(2,6), W(4,-5) and Z(-3,0)
   and classify the triangle.

$5^2 + 6^2 = TZ^2$

$25 + 36 = TZ^2$

$\boxed{\sqrt{61} = TZ}$

$5^2 + 7^2 = ZW^2$

$25 + 49 = ZW^2$

$\boxed{\sqrt{74} = ZW}$

$2^2 + 11^2 = TW^2$

$4 + 121 = TW^2$

$\sqrt{125} = TW$

$\boxed{5\sqrt{5} = TW}$

$\triangle TWZ$ is scalene because no sides are ≅

3) Find the measures of the sides of $\triangle TWZ$
   with vertices at T(-3,1), W(2,1) and Z(2,-3)
   and classify the triangle.
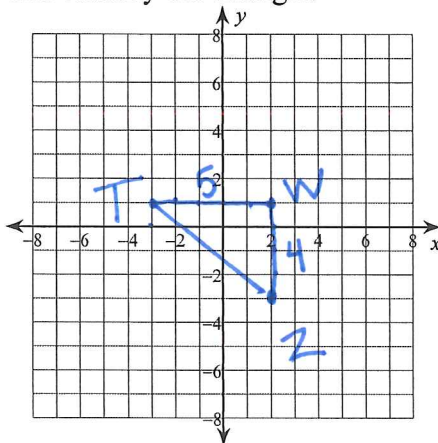
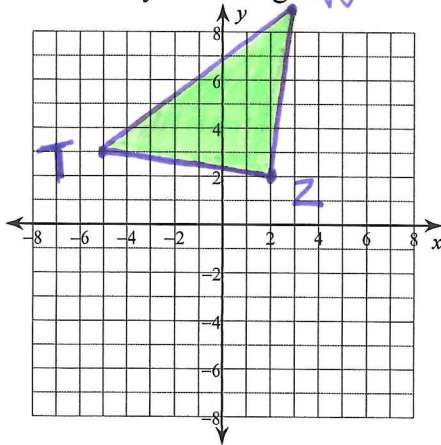$\boxed{TW = 5}$ $\boxed{WZ = 4}$

$5^2 + 4^2 = TZ^2$

$25 + 16 = TZ^2$

$\boxed{\sqrt{41} = TZ}$

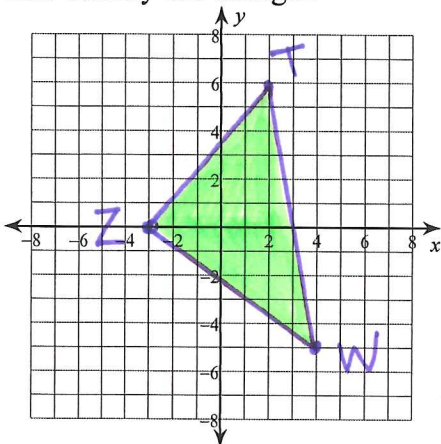$\triangle TWZ$ is scalene because no sides are ≅

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   with vertices at T(-5,3), W(3,9) and Z(2,2)
   and classify the triangle.

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   with vertices at T(-3,1), W(2,1) and Z(2,-3)
   and classify the triangle.