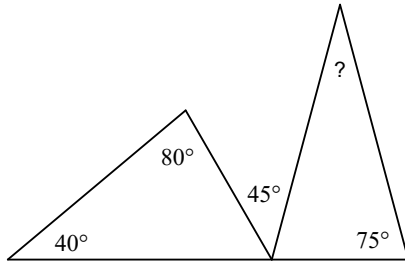


5.2.D1 ~ Triangle Sum/Exterior Angle Theorems

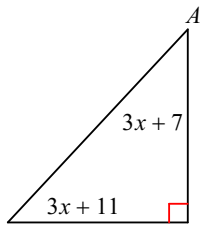
Determine the measure of the indicated angle in the figure shown. Explain your reasoning and show all your work.

1)

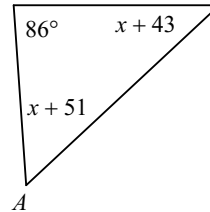


Use the Triangle Sum Theorem to set up and solve an equation to find the value of  $x$ . Then find the measure of angle  $A$ .

2)



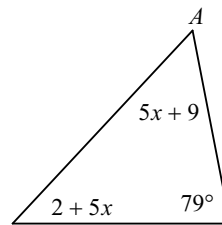
3)



4)

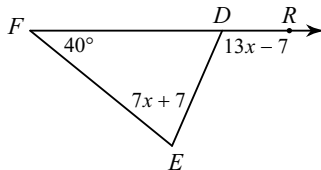


5)

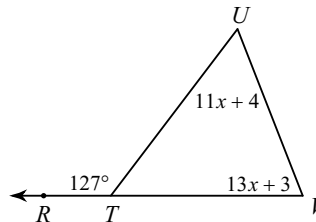


Use the Exterior Angle Theorem to set up and solve an equation to find the value of  $x$ .

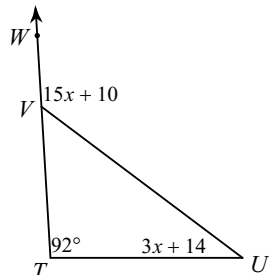
6)



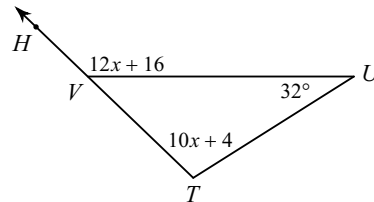
7)



8)

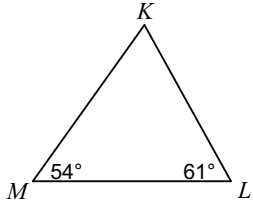


9)



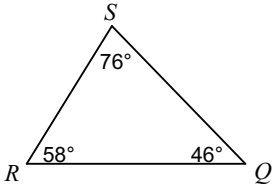
Name the longest and shortest side in each triangle. Explain how you determined your answer.

10)

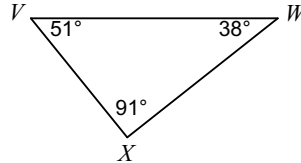


Order the sides of each triangle from shortest to longest.

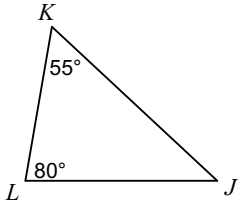
11)



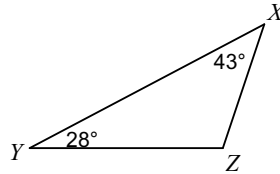
12)



13)

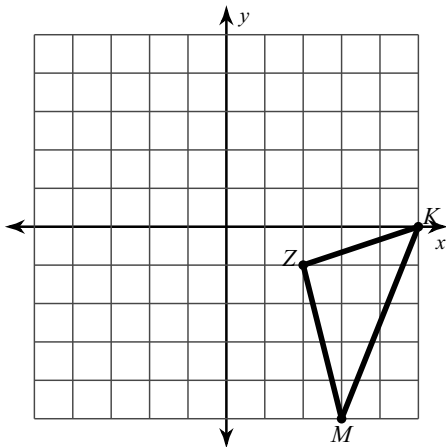


14)



Graph the image of the figure after the indicated translation. Find the perimeter of the triangle (or its image). Classify the triangle as scalene, isosceles, or equilateral. Is the triangle a right triangle?

15) translation: 2 units left and 4 units up



16) Find the perimeter of  $\triangle KMZ$  (or its image). Round your answer to the nearest hundredth.

17) Classify the triangle as scalene, isosceles, or equilateral. Explain your reasoning.

18) Is the triangle a right triangle? Explain your reasoning.