9.2.1 (day 2) Side Lengths and Triangles
Homework

9-62. What kind of triangle will the edges of the squares at right form? What will the side lengths be?

Obtuse. 6, 20, and 25 units

9-63. Determine by inspection whether the lines in each system below intersect, coincide, or are parallel. Do not actually solve the systems. Justify your reasons.

a. \( y = 2x + 3 \) 
   \[ y = \frac{1}{2} x - 2 \]
   Intersect

b. \( 2x + 3y = 6 \) 
   \( 2x + 3y = 9 \)
   Parallel

c. \( y = \frac{1}{3} x + 2 \) 
   \[ y = \frac{1}{3} x - 2 \]
   Parallel

d. \( x - 2y = 4 \) 
   \[ -2x + 4y = -8 \]
   Coincide

9-66. If one atom of carbon weighs \( 1.99 \times 10^{-22} \) g and one atom of hydrogen weighs \( 1.67 \times 10^{-27} \) g, which element weighs more? Explain your choice.

Carbon weighs more

9-64. Use the graph at right to answer the following questions.
a. What kind of growth does this graph show? How do you know?

   Linear growth

b. What is this graph describing? Write an appropriate title for the graph.

   The graph shows the distance from home at different times. Possible title: Distance and Time.

c. How far from home is the person when the graph starts?

   9 miles

d. How fast is the person traveling? Explain how you can use the graph to determine the rate of travel.

   The person is traveling 2.5 miles per hour away from home.

e. Write an equation to represent the line on the graph.

   \[ y = 2.5x + 9 \]

9-67. Andrea wants to have $9500 to travel to France when she is 22. She currently has $5976 in a savings account earning 5% annual compound interest. Andrea is 14 now.

a. If she does not take out or deposit any money, how much money will Andrea have when she is 18?

   $7263.87

b. Will Andrea have enough money for her trip when she is 22?

   No; $8829.27