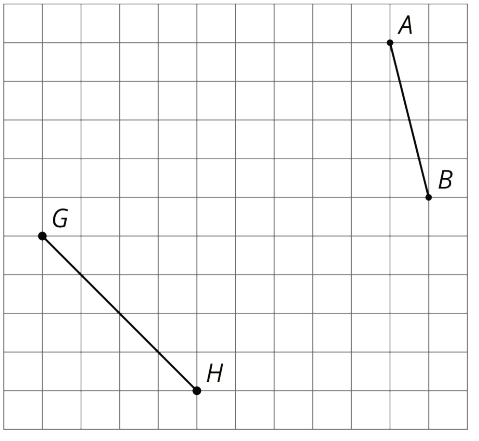
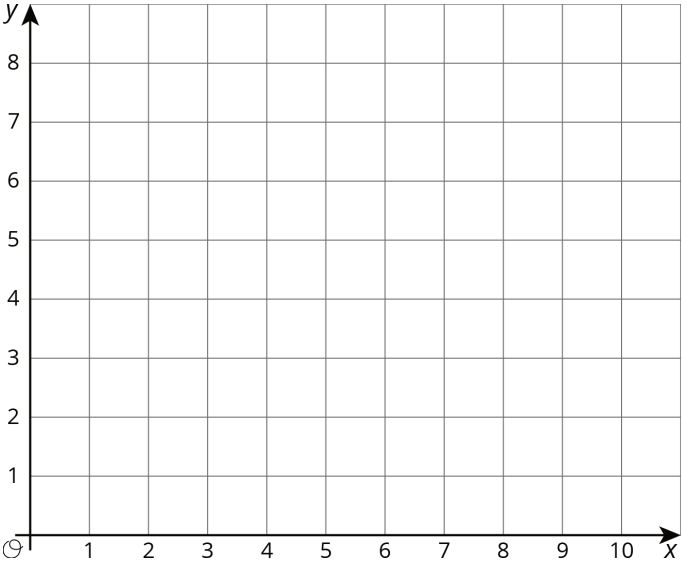
Lesson 4 Practice Problems

1. a. Find the exact length of each line segment.



b. Estimate the length of each line segment to the nearest tenth of a unit. Explain your reasoning.

2. Plot each number on the x-axis: $\sqrt{16}$, $\sqrt{35}$, $\sqrt{66}$. Consider using the grid to help.

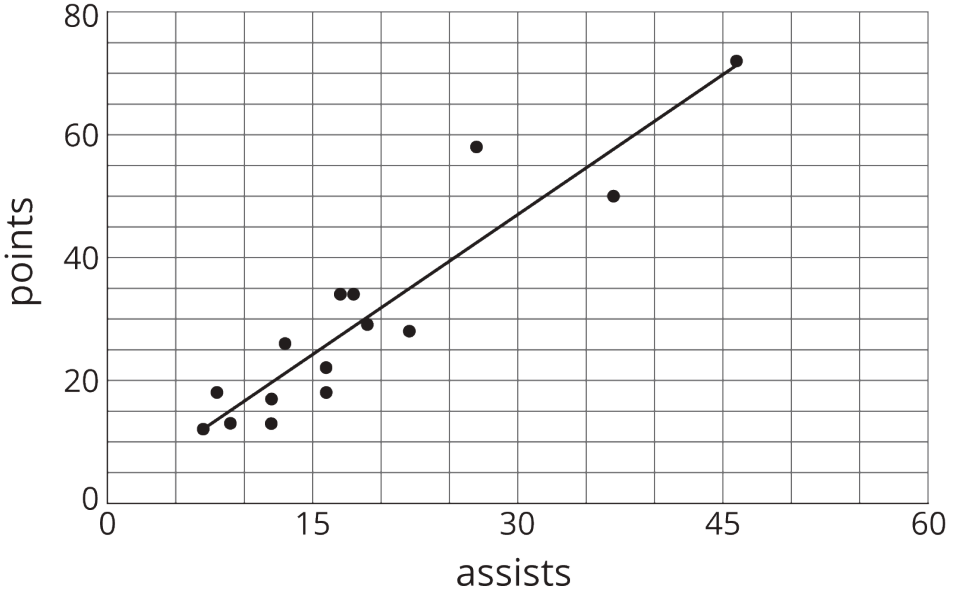


3. Use the fact that $\sqrt{7}$ is a solution to the equation $x^2 = 7$ to find a decimal approximation of $\sqrt{7}$ whose square is between 6.9 and 7.1.

4. Graphite is made up of layers of graphene. Each layer of graphene is about 200 picometers, or 200×10^{-12} meters, thick. How many layers of graphene are there in a 1.6-mm-thick piece of graphite? Express your answer in scientific notation.

(From Unit 7, Lesson 14.)

5. Here is a scatter plot that shows the number of assists and points for a group of hockey players. The model, represented by $y = 1.5x + 1.2$, is graphed with the scatter plot.



a. What does the slope mean in this situation?

b. Based on the model, how many points will a player have if he has 30 assists?

(From Unit 6, Lesson 6.)

6. The points $(12, 23)$ and $(14, 45)$ lie on a line. What is the slope of the line?

(From Unit 3, Lesson 5.)